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ABSTRACT

This publication is a compilation of papers presented at the "Presidents' Conference on Excellence in Illinois Education." These conference proceedings outline the complex and difficult nature of the educational problems facing the state of Illinois and the nation as a whole. These papers, by presidents of universities in Illinois, present a series of principles for action which policymakers are urged to consider. Contents include: (1) "Why Are We a 'Nation at Risk'?" (Lloyd Watkins); (2) "Responsibility for Improving Literacy Skills" (George Ayers); (3) "Public School-University Partnerships: What Has Been Successful?" (Leslie Malpass); (4) "The Influence of College Admission Standards on Quality Education in Secondary Schools" (Ronald Williams); (5) "What Is the Most Productive Mix of Pedagogical and Discipline-Based Courses in Teacher Preparation Programs?" (William Monat); (6) "What Is the Most Productive Mix of Liberal Arts, Mathematics, and Science Courses in Teacher Education Programs?" (Stanley Rives); (7) "Certification and Competency Exams: What Should Be Tested?" (Leo Goodman-Malamuth); and (8) "The Role of the Arts and Sciences in Teacher Education" (Earl Lazerson). Also included are closing remarks by Allan Ostar, president of the American Association of State Colleges and Universities. (JMK)

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Proceedings of the Presidents' Conference on Excellence in Illinois Education

"New Beginnings for Excellence in Illinois Education"

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PREFACE

It is especially fitting that presidents of these particular universities gathered to consider the status of education in Illinois. The presidents who participated in the Conference are devoted to enhancing excellence in Illinois education. The universities they lead are those to which the people of Illinois historically have turned for assistance in solving problems in the schools of the state.

These proceedings outline the complex and difficult nature of the problems confronting us in this state and nation. The proposed solutions attack the problems in a fashion which moves us beyond simplistic thinking. The proceedings provide a useful and articulate statement of the problems and a series of principles for action which we urge policy-makers to consider.

While the focus of the conference has been primarily on Illinois, the scope of discussion ranges more broadly. Colleagues in other states will find the proceedings useful in their settings, and federal officials will be able to acquire insights applicable to national concerns.

As we move away in time from the flurry of national reports on education, we must guard against a cooling of interest which leads to a "business as usual" approach to education. It is my hope, and that of my colleagues, that this monograph will help insure against apathy and will contribute to improving quality in our educational systems.

Lloyd I. Watkins, President
Illinois State University

Proceedings of the Presidents' Conference On Excellence in Illinois Education

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Why Are We A "Nation At Risk"?

Dr. Lloyd I. Watkins
President, Illinois State University

What do the years 1957 and 1983 have in common? In these years, more than a quarter of a century apart, Americans became alarmed about the quality of education being offered in their nation. In 1957, the alarm was triggered by the Soviet Union's launching of the satellite Sputnik I, signifying that we were behind in the then-embryonic "space race." We responded by initiating what has become a major federal investment in education.

The triggering of the alarm in 1983 was neither so singular nor so simple. For several years we had been advised that the scores of students on standardized achievement tests had declined,[1] and we also began to believe that other nations were overtaking us technologically and economically to the extent where, as Senator Richard Lugar stated, the United States could "... suffer a severe decline in employment, in the standard of living for most citizens, and perhaps even in an eroding defense capability if we are insufficiently bright and competitive as a people."[2]

We again concluded that our educational systems were flawed. Paul Peterson wrote that "By almost every measure—the commitment and competency of teachers, student test scores, truancy and dropout rates, crimes of violence—the performance of our schools falls far short of expectations,"[3] and in the most famous of numerous reports on American education, *A Nation at Risk*, The National Commission on Excellence in Education warned that "... the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people."[4]

It is my task today to identify reasons for this apparent decline in the quality of our educational systems. I begin with a warning: in our fervor to identify and suitably damn villains, let us not forget the strengths of education in the United States, strengths based, as no where else, upon wide access to the systems. Those strengths must be retained. Nevertheless, it is clear that education in our nation is not as good as it must be. Why is this so?

I submit it is because we, as a nation, have not made a *significant* and *sustained* commitment to excellence in education. Our concern is spasmodic, occasioned by fears of being overtaken in some fashion by another nation—not by enthusiasm for education itself. Our schools reflect societal concern, and *we have not cared enough.*

First, we have not cared enough about our teachers. Ernest Boyer noted that "Time and time again, we were reminded that excellence in education means excellence in teaching; that improving schools means improving the working conditions of those who meet with students every day...."[5] His sentiments are echoed by Griesemer and Butler who wrote that "The cornerstone of school improvement is quality teachers and teaching. Education as a high intensity human resource 'industry' requires that we invest heavily in 'human capital.' Without this, all other improvement efforts will fail."[6]

In fiscal terms, we have not invested heavily enough in "human capital" to attract many outstanding students to a career in teaching or to retain people in the profession. The average starting salary for a teacher with a baccalaureate degree was $12,769 in 1983,[7] and the average salary after twelve years of teaching was only $17,000 per year.[8] Feistritzer, in her report entitled *The Condition of Teaching*, noted that "When expressed in 1972 dollars, the average teacher salary actually dropped from $10,164 in 1972-73 to $8,926 in 1982-83, reflecting the loss of purchasing power due to inflation."[9] Terrel H. Bell, Secretary of Education, in a December, 1983, speech to the National Forum on Excellence in Education, listed as a major goal that "Every State will make teaching so attractive that entry level college graduates' salaries will be competitive with the average entry level salaries of college graduates with degrees in business and engineering."[10]

That would be a good start, but it is only a start. John Goodlad, in his book entitled *A Place Called School*, gives a more complete listing of factors which discourage teachers and prospective teachers: "Those women—and men—who do enter teaching today work in circumstances that include some gain in their autonomy in the community accompanied by some loss in prestige and status; an increase in the heterogeneity of students to be educated, especially at the secondary level; increased utilization of schools to solve critical social problems such as desegregation; a marked growth in governance of the schools through legislation and the courts; continuation of relatively low personal economic return; limited opportunities for career changes within the field of education; and continuation of school and classroom conditions that drain physical and emotional energy and tend to promote routine rather than sustained creative teaching. Merely holding teachers accountable for improved student learning without addressing these circumstances is not likely to improve the quality of their professional lives and the schools in which they teach."[11]

Given these conditions, teaching is not a very attractive profession. Teachers have, not surprisingly, responded with protective measures. They have joined unions, sought strengthening of tenure laws and regulations, and are suspicious of merit pay. They also have been loathe to admit that teaching, like all professions, has incompetents within its

ranks. As Dr. Terry Fry, an English teacher at Bloomington (Illinois) High School, put it, "Teachers basically see themselves as colleagues, not competitors."[12]

If, as most believe, teachers are central to excellence in education, it is clear that we have not cared enough about them. Morale among teachers is generally low, and a study by Suzanne Gardner indicates that more than a third of all teachers either certainly or probably would not become teachers again.[13] Given the circumstances I have described, this is not surprising, nor is it surprising that our ignoring the legitimate needs of our nation's teachers is a major cause of a decline in the quality of education.

Second, while we have neglected the status of our teachers, we simultaneously have been asking schools to teach things which formerly were taught in homes and churches.[14] Peterson writes that "The schools, moreover, have had to provide a wide array of social services, acting as surrogate parent, nurse, nutritionist, sex counselor, and policeman. At the same time, they are charged with training increasing percentages of the nation's youth, including large numbers of hard-to-educate youngsters. . . ."[15] Senator Lugar, speaking to the National Forum on Excellence in Education, was quite blunt about this: "It is not enough now that schools teach reading, writing, and arithmetic. They are also asked to teach children how to drive, how to cook, what to feel about emerging sexuality, how to respond to pressures regarding alcohol, tobacco, and drugs, and what to think about the prospects for nuclear war. This is a tall order for all institutions, and if schools are not succeeding fully, it is fair to say that parents, churches, and other institutions are not either."[16] We now are concerned that our children are not well-grounded in basic intellectual skills, but we have not cared enough in the past about those skills to ensure that they, and not peripheral skills, remained central in the educational missions of our schools.

A third factor which has comprised the quality of education in America is that we have not cared enough about rigor. The late 1960's and early 1970's saw a softening of concern for serious academic achievement. It was the era of "flower children," of "do your own thing," and of "credit for experience," a concept which was prostituted by some. Apparently, we assumed that good economic times would roll on forever and that there would be jobs aplenty for the incompetent as well as for the competent. Schools, colleges, and universities relaxed requirements. We did not ask hard questions, for instance, about the effectiveness of our teacher preparation programs. Obtaining skills in those disciplines basic to all intellectual endeavors is difficult, and paths around the difficult were constructed. Nearly all of us stand indicted. We succumbed to societal pressures—pressures from students, from parents, from legislators, from courts—to grant diplomas and degrees. The myth, for instance, that students were somehow *entitled* to college

or university degrees was articulated, and the situation at the elementary and secondary levels was worse. With public support, we now are beginning to re-institute rigor as an ingredient essential to teaching and learning, but we will live with our mistakes of the past fifteen years for a long time.

The Task Force on Excellence in Education of the American Association of State Colleges and Universities stated that "From America's beginning, its citizens recognized that education would undergird the nation's entire social and intellectual infrastructure."[17] While clearly we do not always act in ways which reflect this understanding, we are at a point in our nation's history when we have public support for strengthening education. As educators and as a people, it is time to act.

It is time to give to our teachers the three R's of remuneration, resources, and respect which they need and deserve, and it is time for those of us in education to accept the challenge to improve educational quality.

It is time to give our nation's schools, colleges, and universities reasonable missions and to understand they cannot be all things to everyone.

It is time for educators and the public to demand the restoration of rigor in education at all levels. Teacher preparation programs must become more rigorous.

We must do these things to improve quality without diminishing access to the system, without closing those doors to opportunity so recently opened for many. The National Commission on Excellence in Education recognized this with the resounding statement that "We do not believe that a public commitment to excellence and educational reform must be made at the expense of a strong public commitment to the equitable treatment of our diverse population. The twin goals of equity and high-quality schooling have profound and practical meaning for our economy and society, and we cannot permit one to yield to the other either in principle or in practice."[18]

Ernest Boyer believes that "... today America has the best opportunity it will have in this century to improve the schools"[19] The purpose of this conference is for us to be a part of seizing this opportunity. If we fail, the United States will increasingly be "a nation at risk." This is, above all, time for that *significant and sustained commitment to excellence in education* which we, as a nation, have yet to make. We will make it—if we really care enough.

NOTES

[1]John I. Goodlad, *A Place Called School* (New York: McGraw-Hill, 1984), p. 6.

[2]Senator Richard G. Lugar, *Keynote Address*, National Forum on Excellence in Education, Indianapolis, December 8, 1983, p. 1.

[3]Paul E. Peterson, *Making the Grade* (New York: The Twentieth Century Fund, 1983), p. 3.

[4]The National Commission on Excellence in Education, *A Nation at Risk: The Imperative for Educational Reform*, April 1983, p. 5.

[5]Ernest L. Boyer, "Foreward," *The Condition of Teaching*, by Emily Feistritzer (Princeton: The Carnegie Foundation for the Advancement of Teaching, 1983), p. xiii.

[6]J. Lynn Griesemer and Cornelius Butler, *EDUCATION UNDER STUDY—An Analysis of Recent Major Reports on Education*, 2nd ed., Northwest Regional Exchange, Inc., November, 1983, p. 4.

[7]Feistritzer, p. 112.

[8]*A Nation at Risk*, pp. 22-23.

[9]Feistritzer, p. 46.

[10]Terrel H. Bell, "Suggested Priorities and Goals for American Education," National Forum on Excellence in Education, Indianapolis, December 8, 1983, p. 4.

[11]Goodlad, p. 196.

[12]Terry Fry, "Honor System is a start...," by Dave Hancock, *The* (Bloomington, IL) *Pantagraph*, February 5, 1984, p. A-11.

[13]Suzanne Gardner, *Status of the American Public School Teacher, 1980-81*, National Education Association, 1982, p. 73.

[14]Goodlad, p. 7.

[15]Peterson, p. 4.

[16]Lugar, p. 6.

[17]*AASCU and the Nation's Schools: An Action Program for Excellence and Opportunity in Education*, AASCU Task Force on Excellence in Education, November 22, 1983, p. 1.

[18]*A Nation at Risk*, p. 13.

[19]Ernest L. Boyer, *HIGH SCHOOL—A Report on Secondary Education in America*, The Carnegie Foundation for the Advancement of Teaching (New York: Harper and Row, Publishers, 1983), p. 1.

Responsibility for Improving Literacy Skills

Dr. George E. Ayers
President, Chicago State University

Introduction

The dismaying decline of American Public Schools has become an angry anxiety for parents, a threat to the nation's values and goals, and a politically exploitive issue. Current literacy rates tend to provide the empirical support that our public education system has been less than adequate.

In two hearings he held on the subject of illiteracy, Representative Paul Simon revealed some astounding national statistics. As many as 25 million Americans cannot read or write; as many as 72 million Americans are functionally illiterate and cannot read or write above the fifth grade level; 47 percent of all black 17-year-olds are functionally illiterate, and by 1990, that figure is estimated to go up to 50 percent; 56 percent of all Hispanic Americans are illiterate; and 75 percent of all unemployed persons have inadequate reading and writing skills.

Another relevant study, The National Commission on Excellence in Education, revealed that 13% of all 17-year-olds are functionally illiterate, nearly 40% cannot draw inferences from written materials, and only a third can solve a math problem requiring several steps. From 1963 to 1980, the average scores on scholastic aptitude tests fell more than 50 points in verbal skills (to 424 out of 800) and 36 points in math (to 466). In ever increasing numbers, recent reports on the failure of public education have consistently drawn similar conclusions that "The educational foundations of our society are presently being eroded by a rising tide of mediocracy that threatens our very future as a nation. . . ." According to the National Commission on Excellence in Education, "We have been committing an act of unthinking, unilateral educational disarmament." While our public schools are not the only source of the problem, clearly they are the single institution which ostensibly is equipped to provide the solutions.

One of the strengths of public education is its ability to be responsive. During the 1950's when the primary goal of education was to raise all citizens to a level of competency in reading, writing, and arithmetic, our curriculum reflected this goal with sequenced reading series, composition, courses in mathematic principals, and, later, geometry, algebra, and calculus. The 60's were characterized by a rapid growth in specialization among disciplines and the shift toward more liberal

education. Core curriculum diminished as course electives proliferated. The liberal education movement paralleled the political liberalism. The concurrent growth in social programs inspired confidence that societal problems were being addressed. In contrast, the present threat of cutbacks in social programs is a real concern and public education has become the source of blame for a wide variety of societal "ills." During the period of more liberal education in our schools, there was less concern about teaching reading, writing, and arithmetic and greater emphasis upon expanding the educational experiences of our students to include social sciences and human relations.

Education's responsiveness can be documented with relative ease. It has, however, been difficult to balance responsiveness with anticipatory strategies which may have prevented the current problem of illiteracy putting our nation at risk. While our institutions of education have been criticized for the educational experiments of the 60's and 70's, too little discipline, the erosion of standards, too little homework, and inadequate teachers, other instrumentalities have been viewed as contributing as well. The erosion of American values, a rise in single parent families, too much federal involvement, not enough state and local spending on education, and children spending too much time in front of television instead of interacting with the family are a few examples.

The schools may or may not have been charged with too much responsibility to reshape society. Educators and educational administrators alike have witnessed the displacement of blame. At a recent recognition dinner at Chicago State University celebrating the successful completion of the State Principal's Exam, a high school teacher turned to a CSU staff member and stated, "When your people ask us why are we not preparing our students for higher education, we turn around and ask the elementary schools why they aren't doing their jobs?"

The utility of placing blame is minimal. It would be more productive to begin addressing the pervasive problem of illiteracy with the recognition that each of us is and should be responsible to our students. At all levels of education, there has been a weakness of purpose, a confusion of vision, a vast underuse of talent, and a lack of leadership. If we are willing to accept these charges from the perspective of the various educational institutions which we each represent, then we can begin to identify and operationalize exactly what responsibility for improving literacy skills means.

Responsibility

Responsibility is the willingness to be accountable for whatever educational outcomes result from what we do as educators, educational administrators, and educational leaders. In the complex university structure, it is not always easy to stay informed about those activities

occurring in various colleges across campus or even in the building adjacent to ours. And to be familiar with how our colleagues at other levels, such as elementary and secondary, are functioning would almost appear to be an unreasonable expectation.

Regardless of how pervasive the problem is, finding solutions is a realistic goal. Just as the behavioral scientist attempts to change behavior by rewarding successive approximations of the desired behavior, the administrative scientists must develop strategies by assessing the desired outcomes and then identifying alternative ways to achieve the goals. The ways in which the problem of illiteracy can be addressed is by finding out what it is that education does "right" and do more of it, as well as identifying what it does "wrong" and then do it better. Problems that are ignored usually grow into larger problems, and the national problem of illiteracy, unfortunately, is growing.

Educational administrators, not unlike management in the private sector, have been forced to spend much time and resources trying to improve "efficiency;" that is, *how* education is provided—specifically, cost effectiveness of the educational process. Too little time has been spent focusing on "effectiveness." Seldom does the administrator ask, "are we really dong the *right* things?" Instead, we have been conditioned to ask "are we doing things right?"

The renewed commitment to "quality" and "excellence" which is being articulated requires that time and resources be allocated to *what* should be done rather than *how* we should do it. At the November meeting of American Association of State Colleges and Universities, Paul Woodring, distinguished service professor at Western Washington University, offered a rather poignant challenge: "The cessation of growth (in our institutions) offers an opportunity to reassess our goals . . . with less time spent in planning new buildings—more time can be spent in planning better educational programs." Further, he suggested "that if all institutions spent as much time, effort and money recruiting teachers as they do recruiting athletes the quality of education would be improved." Schools have not forgotten how to teach literacy skills, but what is needed in addition to that knowledge is a plan for what to do about all those potentially literate students who have not been reached. There are many who have never made it to the educational system at all, and more who have slipped through the cracks of the system.

There is a need for a comprehensive outreach program for improving literacy skills. And that outreach must involve the commitment of not just educators but a cross section of everyone capable of contributing to public education.

We need to envision our efforts as "in consort" with the effort of all who stand to benefit so that we can develop responses which will augment the efforts of others. "Responsibility" then is a function of the roles we assume. The learner is responsible for persisting in the educa-

tional process to reach his or her goals. Educators are responsible for developing, implementing, evaluating, and improving their instruction. Local school districts and state administrators are responsible for establishing the conditions and procedures necessary for learning and continuous school improvement. Legislators and school board members are responsible for passing laws, making national policy decisions, and appropriating funds that will facilitate educational goals.

One of the most important aspects of an "outreach" program is its well-articulated *targeting* strategies. As each of us assumes responsibility for the desired goal of improving literacy skills, our collective efforts should complement one another's, and our individual efforts will be differentiated on the basis of how our respective roles will enable us to target our efforts.

Strategies

As presidents of multipurpose higher education institutions, we can employ many of the same approaches. For instance, we can improve our reading programs and writing programs without major renovations of our current structure. What is required is the application of ingenuity. We can also allocate resources to provide strong support to the continued development of our faculties. We can attract and judiciously select good students to become future educators. We can set standards of excellence for our students. We have been reminded that the normal schools, which were called "normal" because they established the "standards" or "norm" for elementary education, made an enormous contribution to the improvement of public education.

We need to be rewarding excellence in learning and in teaching. We are all too aware of the diminishing prestige associated with the teaching profession. It is our responsibility as the trainers of those professionals to advocate on behalf of the teaching profession. The same kind of identity building should be reinforced among teachers as it is in the medical and legal professions.

Just as there are numerous similarities among our institutions so are there distinctive differences. And those distinctions should be mobilized to exploit the positive achievements we have made toward improving literacy skills. The regional resources characteristic of our respective geographic locations are unique and significant in terms of optimizing our approaches to increasing literacy. Whether in a highly concentrated urban setting or a homogeneous rural setting, we should use our available resources to assist the local elementary and secondary schools and to establish linkages with our regional two-year colleges. By letting our communities know what we are doing and that we are a strong resource to be tapped, we'll optimize our impact on the education of all citizens.

The strong traditionalism associated with institutions of higher

learning contribute to a resistence to try new approaches. And yet a recognition that we can still learn from the experiences of others is important. We need to find out what others are doing well and emulate them. It may require crossing the traditional barriers between the "academy" and private enterprise. Education has made significant strides in building support from the political arena since it began to function as open systems and engage in the fluid participation of the political process. Similarly, once the profit motive of private industry is no longer viewed by the public sector as contrary to the egalitarian spirit of public education, then we can begin to communicate with one another about what it is we *want* to accomplish.

Commitment

A sincere commitment must accompany "responsibility." In the long run, it may be better to articulate our efforts as what the educational community "wants" rather than what society "needs." The danger in articulating "needs," as many educational planners and policy makers tend to do, is that it inhibits the consideration of alternatives rather than promoting a healthy exploration of all options. The typical way of developing educational plans is by identifying "needs," establishing goals, developing objectives, designing activities, and allocating resources. This process has limited that which is desirable from the range of discretionary choices by convincing everyone that the plan is the *best* way to address the "needs." As such a plan fails to completely meet the needs, the problem often becomes defined as one without solution. What ought to occur instead is an ongoing assessment of progress and the introduction of new strategies to replace the old ones as they become ineffective. It would appear to make better sense to keep all options open and engage in ongoing collaboration with those with a sincere commitment to the improvement of literacy skills.

Federal, State, and Local Responsibility

As stated earlier, responsibility must be pervasive. Already at the federal level, there appears to be a commitment to responding to the problem of illiteracy with the early introduction of the Higher Education Reauthorization Bill. As it is currently designed by Congressman Simon, The Pell Grant Program would be made an entitlement. The College Work Study Program would be increased to 800 million by 1990, and the state allotment portion of the current law would be replaced by a new formula which would likely tend to favor lower-cost public institutions over private colleges. The Campus-Based Block Grant Program would be based on the same formula as the College Work Study Program, thus reducing the possibility for state revenue shortfalls negatively affecting the program. Of major significance is the newly proposed educational outreach program and the literacy training program as additions to the

current Title III. The criteria upon which Part B of Title III is based are presumably designed to favor those institutions with larger percentages of disadvantaged students. Those students are considerably more likely to fall short of literacy competencies. Title V establishes four new parts which would contribute to the development of teacher preparation programs. The reauthorization also proposes to extend the Title X program, authorizing the establishment and operation of the fund for the improvement of post-secondary education and setting forward a flexible grant program for non-profit institutions of post-secondary education.

While there is some concern that Simon's bills are over-ambitious and premature, the mere fact that reauthorization is being considered is evidence of a commitment to education at the federal level.

Contemporary writers have pointed out increasing political activism at the state and local level in education issues. The School Board of Bismarck, North Dakota, "considered forming a political action committee to endorse and fund state legislators who would favor their educational aims." Clearly, state funding of education increased during the later 70's and 80's. Some current state initiatives include mandates for curriculum reform, graduation requirements, and more stringent admission requirements at post-secondary education levels. The controversy over access and quality continue; yet, at the policy level, there is unanimous agreement—improved literacy.

Across the country, there has been a rise in local initiatives in education issues. As John Naisbitt points out, "The education issue is ripe for increased local initiative." Several reasons account for the shift to local support. Education is a natural issue for community activism because of a long tradition of local control. The decline in the quality of education and recent federal and state intervention in local education are factors which facilitate the rise in community involvement. In large urban cities in particular, community groups have organized to provide a variety of educational programs to its citizenry after school, during evening hours, and on weekends. It appears that the responsibility to improve literacy is permeating all levels of society.

The Future

There is further evidence that responsibility is and ought to be collective. A major debate appeared in the January 25th issue of the *Chronicle of Higher Education* about "Who should make the key decisions about curriculum reform: Presidents or Faculties?" What is inferred in the unpublished national study is that there appears to be a general willingness to exercise leadership in developing curricula which demonstrates a sense of intellectual purpose.

Education is progressing from a posture of "reactiveness" to one of "proactiveness." In an attempt to provide public education which is

responsive to what society values, it is easy to be short-sighted. Caution must be exercised. If we define our goals as being "to teach more people, to reach higher levels of reading and writing," we may find that we have produced a generation of readers and writers who cannot think. Our responsibility must be to anticipate and prepare for the future, not simply react to the past.

Education has gained an audience through the political arena. The opportunity to make significant strides in improving education at all levels is considerable. The time is right to mobilize forces, unify efforts, and strive for educational excellence. The time is right to solve the problem of illiteracy. The development of public education which began shortly after the revolution was based in part on the knowledge that a strong, competitive, self-governing nation needs a literate electorate. The education crisis is a political, economic, social, and humane urgency. Those national aspirations of a growing economy, international competitiveness, secure defenses, personal opportunity, and social justice are all goals which cannot be achieved without an educated society. Among other things, the responsibility for education lies in political fervor, professional expertise, educational leadership, passionate hard work, and a societal commitment. As Martin Luther so eloquently stated, "The prosperity of a country depends, not on the abundance of its revenues, nor on the strength of its fortifications, nor on the beauty of its public buildings, but it consists in the number of its cultivated citizens and its men of education, enlightenment and character." While the nation's eyes are upon our colleges and schools, it would be wise to present a command performance.

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Public School-University Partnerships: What Has Been Successful?

Dr. Leslie F. Malpass
President, Western Illinois University

At least eight national studies of education have been reported during the past year. Among them there is reasonable agreement that our schools—from kindergarten through graduate schools—have not been doing as well as they should. For example:

- One-half of all young people in the United States between the ages of 15-19 cannot read at the sixth grade level.
- Two-thirds of the schools in the United States do not offer more than one year of math, one year of science, and any foreign language.
- One-third of all students enrolled in U.S. engineering schools are from foreign countries.

Intensive studies of representative high schools across the United States have led Ernest Boyer, distinguished President of The Carnegie Foundation, to the conclusion that one out of ten high schools in the United States is better than any secondary schools that ever have been developed; that two of ten U.S. high schools do not deserve the title "*high* school"; and that seven out of ten U.S. high schools rest on an uneasy alliance between students and teachers, in which students don't bother teachers too much if the teachers don't bother them too much.

These negative findings have led to many considered recommendations, which I do not intend to repeat here. Rather, I want to give examples of relationships between public schools and public universities that have led to better teacher training at the university level and better student learning in the public schools. In the interest of time, I shall restrict my observations to four areas of cooperation—curriculum; instruction; student teacher preparation and in-service training for public school teachers; and cooperative use of facilities. Finally, some examples of good communication between public schools and universities, directed toward the upgrading of both, will be reviewed.

Curriculum

There is a large body of research dealing with articulation of secondary school and higher education curricula. Unfortunately, too few professors outside of colleges of education are aware of this research. It would be edifying if professors of English, mathematics, and the social

and natural sciences were to avail themselves of this information. Instead, it is a common practice for professors in the arts and sciences to leave this to their colleagues in education without becoming aware themselves of curriculum activities and changes in the secondary school.

There are, obviously, some notable exceptions. Many AASCU universities maintain effective liaison with public schools so that curriculum is a major concern at both levels. For example, at Western Illinois University, the Departments of English, History, Mathematics, Computer Science, Biology, Chemistry and Physics, along with Industrial Education/Technology and Agriculture, sponsor annual day-long conferences and competitions for high school students. Subject-matter professors invest considerable time with their high school counterparts in planning and implementing these conferences. As another example of cooperation, teams of WIU professors visit public schools and give lectures to subject-matter classes. In turn, their secondary school counterparts are invited to provide guest lectures to university classes. Professors in English, mathematics, history, and industrial education have written texts for secondary schools, finding both intellectual stimulation, understanding of curriculum problems at the secondary level, and monetary reward in so doing. Our College of Education is sponsoring conferences on curriculum articulation, bringing together subject-matter specialists and teachers from both the university and secondary school levels.

There is considerable interest throughout the State of Illinois currently about the Board of Higher Education mandate for public universities to designate distribution requirements for high school graduates seeking admission to public universities. Universities have asked duly constituted committees to study this matter. At my own university, the Dean of the College of Arts and Sciences and a university-wide committee is working on revised curriculum requirements so that high school sophomores next fall will know what is desirable and what will be necessary to be admitted hereafter to WIU. These revised curriculum requirements are being accomplished with the consultation of secondary school administrators and teachers, as well as students and faculty at the university level.

The examples given here represent serious attempts to articulate secondary school and collegiate curricula so that the transition from high school to college can be made more meaningful. These and other efforts can be reviewed against the findings and recommendations of the national studies previously mentioned.

Instruction

Schools of Education traditionally have emphasized process rather than subject-matter content in their instructional activities. They provide methodology courses dealing with a variety of skills—lecture prep-

aration, blackboard drills, appropriate audio-visual usage, preparation of homework assignments, and other teaching techniques. Programmed instruction, begun in the 1950's, has evolved into computer-assisted instruction. The use of slides, films, and overhead projectors has been augmented by the use of educational television. In the latter area, simultaneous two-way microwave and satellite technologies have been added to the conventional open-air one-way instruction. Currently, Western Illinois University, Sangamon State University, Bradley University, and Black Hawk College, along with WJPT in Peoria, have developed a microwave system which will provide formal courses to elementary, secondary, and university classes as well as specialized short courses, conferences, and individualized instruction for industrial and business concerns.

Dean David Taylor and his staff at Western Illinois University recently completed arrangements with KLM Electronics so that foreign language instruction can be supplied to Brown County schools via satellite, with primary consultation given by WIU foreign language professors. Cooperation such as this has been noted between many individual colleges and/or state systems and public schools.

In fact, practically every university in the United States, including those in Illinois, has a large repository of audio visual materials. The Illinois State Board of Education provides such materials at cost to public schools throughout the State, either through courier service or by ETV. Many similar regional and statewide ETV networks are currently operational, many of them associated with national public television.

Along another dimension, Professor James Marlin of the Western Illinois University Department of Economics now teaches all students enrolled in Introductory Economics by means of computer-assisted instruction. Some students finish all course requirements in as few as nine weeks rather than the fifteen weeks required by typical lecture presentations. This course has been enthusiastically endorsed by all members of the Department of Economics and especially by those who cooperate in the teaching of the introductory course. From my own personal standpoint, it would be desirable for university professors from other disciplines, as well as secondary and elementary teachers, to observe an exemplary CAI course in action.

The debate continues whether, at the undergraduate level, too much time of student teachers is spent in methods courses. In this regard, the Council of State School Officers has requested state departments of education to revise certification requirements so that prospective teachers need not take *any* undergraduate education courses in order to be certified. My personal guess is that this will galvanize opposition from professional Schools of Education, but this remains to be seen.

There is no question in my mind that neophyte teachers need an

introduction to appropriate techniques of presenting instructional material to children. How many courses, plus observation of master teachers in schools and universities, is at issue. On the other hand, subject-matter specialists, especially in the arts and sciences, need to be more concerned than most of them are about process as well as substance.

Student Teacher Preparation and In-Service Training for Secondary School Teachers

Every accredited School of Education has conventional arrangements for training student teachers. Most of us know that student teachers usually are required to make observations of children in recreational/leisure time pursuits as well as in classroom situations before being assigned to a master teacher for at least one semester for actual in-class training. Evening and summer courses are available to elementary and secondary school teachers. But in these days of reduced tax bases and failed referenda, more incentives are necessary for teachers to continue in-service training.

In the Quad Cities, there is an excellent consortium of eight universities (four from Iowa, four from Illinois) which provide graduate degree programs and courses for teachers who cannot conveniently travel to any of the graduate program Consortium schools. The Quad Cities Graduate Center is recognized as one of the outstanding consortia in the country. I am proud that Western Illinois University provides more than 55 percent of the teacher-training courses at the Center and cooperates with the University of Illinois, the University of Iowa, Iowa State University, Northern Illinois University, the University of Northern Iowa, Augustana College, and Marycrest College in providing a variety of workshops and conferences which supplement credit courses offered to public school teachers and administrators.

Queens College, on Long Island, has a fine cooperative program with the Louis Armstrong Middle School, in which the secondary school teachers participate in teaching college courses while providing supervision to student teachers.

There are many examples of such cooperation between public schools and universities in the training of university student teachers and in in-service training for public school teachers. A problem faced by many Schools of Education across the nation is providing incentives to master teachers to supervise student teachers in their classrooms. Most secondary school master teachers already have Master's degrees, so the traditional incentive of offering free tuition at the sponsoring university in return for supervising the college's student teachers may be of little value to the classroom teacher. Western Illinois University has experimented recently in giving tuition waivers to the school superintendent for distribution to teachers other than the master teachers who do not

need or do not choose to use such tuition credits. This system is still under review. It does not adequately address the problem of compensation for the supervising teacher who provides service directly to the university student. Other suggestions for providing incentives to master teachers to supervise student teachers are described in several of the national studies referred to earlier. This is an important area for university-public school cooperation and one which must be adequately addressed if the goal of excellence in teaching at the public school level is to be achieved.

Cooperative Use of Facilities

It is a commonplace for universities to use public school facilities for a variety of activities—research, demonstration, student teacher placement, consultation, the offering of extension courses, et al. Conversely, universities provide facilities to public schools for cooperative projects. In this regard, Western Illinois University has had a long-standing agreement with public school District 185, wherein District 185 offers courses from the kindergarten-6th grade in facilities of the College of Education on our campus on a cost-payment basis. The University has, for all intents and purposes, a laboratory school for the use of its students, together with convenient teacher-training resources, at little cost. District 185 enjoys excellent facilities, library services, outstanding fine arts and physical education programs, audio visual and ETV capabilities, and access to the entire faculty of the University, let alone those in the College of Education. District 185 determines all policies for its programs in the University facilities rather than having the laboratory school instruction and curriculum determined by the University. Both the College of Education and the local school district profit from decreased costs and increased cooperation. When feasible, use of the University facilities by public school personnel is both academically and economically sound.

Many other successful projects between public schools and universities could be cited. For example, a public university in Illinois sponsors an archaeological dig each summer for junior high school and senior high school students. At least three others sponsor outdoor education camps in cooperation with local school districts. Along with several other universities, WIU is considering an Adopt-A-School program, in which many university faculty members become involved with the entire faculty and curriculum of a particular school. These are many examples of jointly-staffed centers which provide services for various categories of exceptional children (e.g. gifted, physically handicapped, mentally retarded), as well as those which provide emphases in special curriculum areas. Oftentimes, these involve joint use of facilities.

Along with examples of cooperation, curriculum, instruction, teacher preparation, and joint use of facilities, it is evident that lines of

communication between public schools and universities must be more open than they have been in the past. Faculties in the College of Education cannot be entirely responsible for maintaining contacts with administrators and teachers in the public school systems. In this regard, the School Administrators Round Table, which has been in existence at Western Illinois University for the past 15 years, brings together more than 100 high school principals and superintendents with faculty, department chairs, deans, and other administrators of the university at regular monthly meetings. A variety of mutually interesting topics is presented and discussed. The Round Table has spawned an increase in secondary school textbook writing by university professors as well as regular visitation by teams of university professors to public schools and vice versa.

The national studies of education have pointed out deficiencies in our systems of public and higher education and suggested solutions for addressing them. The results of these studies need to be heeded. Yet the mass media and the general public also need to know of many examples of cooperative activities between public schools and universities. They give rise to a hope for increasing excellence in curriculum, instruction, and administration of public school and university programs.

The Influence of College Admission Standards on Quality Education in Secondary Schools

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Periodically, colleges set about to change their admission requirements, sometimes with the cooperation of the secondary schools; as nothing else, such reforms underscore the continuum of formal education that begins in the primary grades and ends for the purpose of this discussion in college. Each level in the learning process supposedly builds on the knowledge, skills, and understanding acquired on the preceding one. Such an obvious assumption hardly merits articulation. Because many young people have experienced discontinuities in their education, they are inadequately prepared to move on to more demanding and complex learning. Thus, we must confront this obvious but often-violated assumption about how learn' g progresses. If we wish to improve the quality of instruction in *most* of the secondary schools and thereby improve the chances of their students succeeding in college, we in higher education then must come to better understand the tensions and stresses in the schools that have too often produced students who have been poorly prepared for college admission.

Americans have always expected much from their schools. Some of the founding fathers saw an educated populace as a sure antidote to the poverty and tyranny of eighteenth-century Europe. Within recent times, we still turn to the schools to solve societal problems; such lofty expectations are not without their debilitating underside. The schools are expected to eliminate poverty, racism, unemployment, or at the very least, reduce crime and preserve democratic values. No single institution, let alone the schools, can solve all these problems; thus, too many, over the years, have judged the schools harshly, even as a failure.

Because we look to the schools to solve a myriad of problems, periodically we attempt to remake them so that they indeed will become capable of shaping miracles, beyond providing a quality education for the young. And each group of reformers appears to be unaware that it was preceded by others who had also attempted to change the schools. The recent innovators seem to know little about the history of victories and defeats in this continual battle.

The attitudes toward the schools often reflect a societal ambivalence and an unwillingness to address social problems on other levels and in other forums. Perhaps the schools are seen as a painless way to remake or restructure our troubled community.

While the country may be troubled by these problems, it has not

mustered the resolve to significantly reduce them. And the schools also reflect this ambivalence and weakness of resolve by their failure to educate some students. For example, there is a strong relationship between success in school and income levels of parents. Simply put, the children of parents who earn higher salaries do much better in school than those of parents who earn lower salaries or none at all. And when schools are cited for excellence in education, as was recently done by a national magazine, they are usually found in affluent communities, such as Bethesda, MD; Beverly Hills, CA; Shaker Heights, OH; Scarsdale, NY; and Winnetka, IL. While there are exceptions in these listings, they usually include selective high schools that pull their students from a large geographic area; such student bodies are again usually made up of a disproportionate number of students who come from middle- or upper-income groups. The history of efforts to reform the schools shows that the poor and a disproportionate number of minorities have benefited the least from them, and this remains true even in the face of recurrent attempts to change them.

It has been argued that the poor have little influence on some of the institutions that are supposed to serve them. Their political impotence has been attributed to their lack of knowledge about how some institutions function and how they may be manipulated to the advantage of the poor. The schools have been offered as an example of such an institution that seems to be beyond their control or even their influence.

Another point of view, which seems more persuasive, is that the poor do become adept at influencing and manipulating those agencies that have a direct effect on their survival, bureaucracies that control their food, shelter, and medical assistance. Their attitude toward the schools, however, may *be* ambivalent. Parents and children both voice support for the schools as an important presence in their lives; as all other Americans, the poor look to the schools as a way by which their lives will be made better. The reality is that they, especially poor blacks, see few examples of those who better themselves through education, and those who do are seen as the exceptions, a small minority. These doubts are not whimseys that are to be cavalierly dismissed, since the unemployment rate of blacks with some college education is greater than that of white high-school dropouts.

Since many have less education than they have jobs, blacks may understand that their condition has more to do with being without jobs to earn an adequate living than being without an education. As society moves into a highly technological era, the relationship at all levels between employment and education becomes critical. Yet poor communities have again benefited least from an education that would prepare them for the "new jobs." Thus, while the attitudes of the poor toward the schools is mixed, their failure to influence the schools may be because they are uncertain of the schools' role in their lives.

The schools on the other hand have not been eager to welcome the poor as partners in the education of their children. I suspect this reluctance is many layered. One of the fears, which manifested itself in the sixties in the name of community control, is that low income groups will use the schools to address issues of a broader concern, often related to the material conditions of their lives. It appears that when poor people are given the opportunity to influence institutions, they often attempt to bend them to the critical issues in their lives, to problems of employment and necessary support services.

In the discussion thus far, I have attempted to suggest, ever so briefly, that attempts to change the schools have been attended by conflicts that have centered too often around our ambivalence toward the poor and especially minorities. The appropriate question might be whether the poor should be educated and to what end. Since the majority of inner city young people leave school between the ninth and twelfth grades, it appears that society has decided at this time not to educate a significant number of them. Those who are being graduated from high schools have been found in too many instances to lack the basic skills to meet the minimal requirements of business and industry or to succeed in college.

I have also suggested that the history of the schools is marked by efforts to change them, and the results have been mixed. In the latter part of the fifties, the nation turned to the schools to prepare students to be better able to study mathematics and science. Such preparations were to be the first step on a long journey toward answering the challenges raised by the launching of Sputnik in the Soviet Union. While a few high schools have maintained a commendable level of instruction in the sciences and mathematics, most have not.

In the sixties, we discovered that the poor were being educated woefully, if at all. Programs were devised to remedy these educational deficiencies. Once more we did not observe the unqualified and clear results that would have made many happy. For example, earlier studies were critical of the Headstart Program, while later ones indicated that the program made a decided difference in determining how well children performed in school. Children who had experienced Headstart did better than those who had not.

I would like to draw a few inferences from our past experience that might guide us as we again seek to influence the schools:

1. Quality education in the schools has been and probably will continue to be uneven. This is not to say that we should not labor to reduce or even to eliminate these inequities, wherever they occur. Rather it recognizes that we have not done so in the past and must find the resolve and resources to do so in the future.
2. Low income groups have benefited the least from reforms

to change the schools.

3. Some changes will cost money, such as those to introduce quality instruction in the sciences and mathematics and to correct the continuing disparity in results. These changes will also make it possible for the schools to compete more favorably with business for the small number of professionals trained in these important fields.
4. The schools, indeed all education, are limited in what they can do. Directly put, they can and should provide all students with the best instruction possible. They cannot create jobs for students or their parents.

Perhaps these notions might invigorate the coming attempts to influence the schools and at the same time provide the chastening, the maturity of thought that an understanding of the past sometimes brings to such efforts.

As was mentioned earlier, formal education is a continuum, which makes higher education wholly dependent upon the common schools. So our interest in the quality of education in the high schools is self-serving in one regard. Universities and colleges are expected by definition and by their place in the flow of teaching and learning to offer instruction above the high-school level. While there may be a few exceptions to this hierarchical structure, the higher education community and the public expect a different kind of instruction to occur in their colleges from that found in their high schools. To a large degree then, our interest also expresses an obligation to the public to meet their expectations of quality at all levels. It is this regard, which transcends a desire to perpetuate ourselves, that expresses a profound responsibility to the public.

So then how do we change college admission standards and expect the high schools to be able to meet them? In this time of fiscal stringency when all are expected to do more with less, we must coordinate all that we do with the schools. While our committees are discussing the forthcoming changes, the high school principals and superintendents should be aware of the process and even of the inclinations of the committees, if that is possible. The point to be made here is that appropriate persons in the schools should be informed from the very beginning and throughout the process so that they will have a clear understanding of how we arrived at our conclusions. No one in the schools should be surprised about the results or how we arrived at them. Such openness may inspire and foster a reciprocal candidness on the part of persons representing the schools.

The schools should also understand that they will have a reasonable time to meet the new admission requirements. Indeed, the universities should remain sensitive to the conditions that argue for more time to meet the new standards.

Course-specific admission requirements introduce real problems for some school districts. With some assurance, we may be able to assume, for example, that such requirements may be more easily met in the courses in English and social studies than in the natural sciences and mathematics, for there may be a dearth of teachers capable of teaching chemistry, physics, and mathematics. While some school districts may boast a large number of faculty who are certified to teach the sciences, upon close scrutiny one learns that they have few capable of teaching mathematics or the laboratory sciences at the required level. These are the critical areas in which the foundation is laid in high school for future studies in the natural sciences, engineering, and information science. Advanced work and even a basic understanding of the methods and theory of some of the social sciences are equally dependent upon a mastery of quantitative measures and analyses. Obviously, students who hope to feel at ease in the natural and social sciences must be literate in mathematics.

The schools, then, will need assistance in order to attract and retain competent teachers in these critical areas. While universities and others may encourage young people to prepare themselves to teach mathematics and the sciences, such graduates are eagerly recruited to better paying jobs in business and industry. And given our economic system with its heavy emphasis on a free market, we should expect business and industry to lure the sought-after graduates by offering them more money and the possibility of a better life. We should not be surprised if these graduates, like most others, accept the higher paying jobs.

Perhaps if and when enough qualified scientists and mathematicians are prepared to teach in these critical fields, the market will adjust itself to this adequate supply, which will make the schools an equally attractive choice of employment. Such a righting of the supply and demand of teachers may be a long way off. In the meantime, other avenues must be found to make the economic rewards of teaching competitive with those in other callings.

The schools, however, can turn to another source to meet the current shortage of teachers in specific disciplines. Some teachers currently in the schools may be amenable to being retrained. The universities can join the schools in this enterprise by offering appropriate classes to help teachers acquire the necessary knowledge and skills. Here again, such cooperation has limitations that are imposed by available resources.

Soon we should have reasonably accurate data about the number of teachers needed. From all indications, at least in the Chicago City Schools, I suspect the number will be high. If so, the universities interested in offering in-service training programs for teachers may not have the adequate staff to do so if they are to carry on their primary mission of supporting their existing instructional programs.

As has been the case in the past, schools located in the low-income areas will undoubtedly have the greatest shortage of teachers. To meet their need, the schools must plan over a reasonable length of time to change the curriculum in these schools, while staffing them with teachers who can implement the changes. Here the universities can assist by providing in-service training to selected teachers as has already been mentioned and by assisting the schools in recruiting graduates for assignments in areas of high need. Unless a strenuous effort, based on planning and determination, is made, the changes in admission requirements in our universities will, regardless of all intentions to the contrary, exclude young people from low-income groups and a disproportionate number of these will be blacks and Hispanics. If greater inequality in access to higher education is produced by these proposed changes, especially inequalities related to economic, geographic, and racial distinctions, then I fear that the effort to raise admission standards will founder, serving the best interests of neither students nor the universities.

Assuming that most high schools can make reasonable strides to meet the new college admission requirements, we have no way of knowing precisely the content of various courses taught in high schools throughout the state. It is tempting, although foolhardy, to simply assume that most course-specific admission requirements will be taught at the college preparatory level. Unfortunately, past experiences do not support this conclusion. And as each university sets a deadline by which all students must meet the new admission requirements, the temptation in many districts may be to retitle existing courses to meet the deadline to allow students to matriculate to state universities. I do not mean to imply that the schools will consciously contrive to circumvent the new standards. Rather, these changes will require some schools to make radical adjustments in their curricula and to hire the necessary staff to implement them. And such changes, even with appropriate planning and all good intentions, will create lags in implementation to the extent that some students will have met the new requirements only on paper. Then there is the existing disparity in the level and quality of instruction among high schools. Even with an all out effort to achieve uniformity in the quality of instruction, these differences will continue to exist for some time.

For many reasons then, the level and content of the new courses will probably vary from region to region, from school district to school district, and sometimes from school to school within the same district. While the Illinois Board of Higher Education has not addressed the issue of quality control, it will increasingly become a real concern, which may create significant problems for both universities and students. On the one hand, instructors may modify their course content to meet their students' expected higher level of performance. If students vary widely in

their achievement, those least prepared will be at a decided disadvantage. So, on the other hand, many students will suffer frustration and disappointment because of the mismatch between the expectations of the universities and their performance levels.

Such dissonance between expectations and achievement might demoralize students and faculty. For in many quarters there is an eagerness and a readiness, which have been nurtured by numerous studies criticizing education, to expect higher standards of performance in the schools. Beyond the disappointment, the resultant malaise that would descend on the schools would erode confidence in public education at a time when public support is essential to achieve quality education, thought by some to be critical to the survival of the nation.

Often it is said that people represent the true wealth of any nation. If that is true, and I believe it is, then no nation is so favored that it may squander its human resources by failing to educate its people to their limits. To do any less in this infinitely complex, technologically bent world is to concede the future to those countries which best prepare themselves for it.

To ensure that students are able to meet the new admission requirements and that they meet a minimum standard of performance, universities may have to implement achievement tests. Whether used as a condition of admission or a placement/competency requirement, this option would allow each university to retain control over its admission standards and over the content it expected students to master. While it is arguable that statewide testing might be more efficient, I think there is greater merit and advantage to allowing each university to retain control over these matters. By doing so, I believe there is a greater probability that the universities and the schools will be encouraged to work closely together to improve quality at all levels. And if education in the common schools is to be improved, it must be done at the local levels by the people in these communities. I am of the view that local schools and universities working together is the proper equation to achieve this end, for they would control the key ingredients—types of courses, course content, and quality control—essential for success. While the results would be uneven throughout the state, I suspect that the differences would be smaller than those produced by greater centralized control.

As a nation, we place great store in local institutions and people being involved in the process to solve problems that affect them. The schools and universities that are working to raise standards in their respective institutions are an example of that tradition. Perhaps it is that involvement that distinguishes our system of government and education and at the same time lays bare our weaknesses and greatest strength. It seems that the consensus is that we are more than willing to forego the illusion of efficiency and uniformity for the rewards of personal involvement. It is the latter that has been an important source of our national creativity and enduring resiliency.

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What is the Most Productive Mix of Pedagogical and Discipline-Based Courses in Teacher Preparation Programs?

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When I agreed to address the subject "What is the Most Productive Mix of Pedagogical and Discipline-Based Courses?" I had a vague sense that I was embarking on unfamiliar terrain. As a "liberal arts" student many years ago, I was only dimly aware of College of Education curricular requirements. Indeed, for most of my professional career, graduation requirements in teacher education and teacher certification requirements were not matters of great concern to me personally or professionally. However, having served for seven years as chief academic officer and six years as president of public universities, I have learned that these requirements are indeed central to my institutional, therefore professional, responsibilities and so, of necessity, I have given them a good deal of thought.

Too frequently, both the lay person and the academician not involved directly in teacher education tend to converge in their responses to the question posed by this subject. And that response is simple, indeed simplistic: teaching how to teach is less important than knowing what to teach. In short, substance should have priority over pedagogy. The accumulated volumes of reports and studies addressing the issue of quality in American education have seemed to tilt in that direction, particularly with the emphasis given to science, mathematics, basic language skills, and foreign languages.

The issue is not new, as the literature documents. But, at times, it becomes quite personal. Permit me to be anecdotal for a moment. Thirty-five years ago when I was a senior at the University of Minnesota majoring in political science, I was contemplating what there was in life after a baccalaureate degree. I toyed with the idea of law school and pursued that possibility but really was convinced that graduate school was my immediate objective. These were not the best of times in higher education, a fact that our colleagues who entered academic life since 1960 do not apparently realize. As a hedge against an uncertain future, I seriously considered obtaining a teaching certificate before I entered graduate school. Consequently, I visited the Associate Dean of the College of Education at the University of Minnesota, a very understanding woman named Marcia Edwards, who had that amazing and enviable talent of being both grim but pleasant in her manner of being grim. Although I was nearly a straight A student at Minnesota at the time

I inquired concerning the steps to obtain a teaching certificate, I learned to my consternation that I would need at least four more quarters of undergraduate work to acquire the necessary pedagogical course credits required for an education degree. I quickly abandoned that safety-net possibility and moved boldly on to graduate school. I think the world has changed since then, but not too much. Even at Northern Illinois University where secondary education majors are required to major in a disciplinary department, a student seeking secondary certification is required to take up to 20 semester hours in College of Education courses not including student teaching or a significant number of clinical experience hours. A student wishing to obtain certification in elementary education is required to take more than double that number of courses in the College of Education exclusive of student teaching, and one wishing to major in special education is confronted with an even more awesome and exhausting prospect. I am not arguing that these requirements are not important and, indeed, many if not most are appropriate. I have a feeling, based upon my daughter's experience in majoring in special education and elementary education, that most of those required courses are important and perhaps even indispensable.

Let me turn to two other anecdotal observations, less my own than those of several individuals with whom I have been working during the past several months. I am currently serving on the Regional Advisory Committee for the Center for New Technology Education. At our last meeting several weeks ago, we never got beyond the first item on the discussion agenda which sought advice from the industrial representatives concerning what basic skills they see as either essential or desirable in technology education. Reflecting their experience as employers of young men and women who graduate from vocational and technical education programs at the secondary-school level and even the post-secondary level, they were adamantly unanimous in the competencies they seek and too seldom obtain, which are those of reading, writing, computing, and thinking. They felt that if the schools don't provide students with those competencies, little else is of any lasting value. Let me burden you with one other anecdote. As a member of the Governor's Commission on Science and Technology, I serve on the Commission's Education Committee. There are only two educators on that committee, and the rest of the committee consists of representatives from industry and research centers. At our last meeting two weeks ago, one of the members, a prominent industrial scientist and an administrator, reported on the progress of the Governor's Task Force on the Quality of Education in Mathematics and Science of which he is also a member. His personal observations merely restated and reinforced those offered by the industrial representatives on the Advisory Committee I referred to earlier. In his summary of the Task Force Report, however, he became

more specific by observing that the Task Force examined the math and science excellence problem from four interrelated standpoints:

a. To grow and nourish an informed electorate.
b. To provide initial and continuing mental tools for the State's work force (all disciplines and vocations).
c. To provide a foundation of mathematics logic and scientific problem solving and a broad understanding of science and technical issues for those college bound students who will aspire to an education in areas other than math, science, or technology.
d. To provide preparation for and provide a first-class science and math education for future professionals in the fields of research and development, engineering, manufacturing, administration, as well as teaching at all levels.

In pursuing that agenda, the Task Force examined the status and trends of Illinois math and science curricula at all levels of education, the status and trends and teacher qualifications and quality, the status and trends of various requirements in Illinois math and science education at all levels, and evidence of student achievement and the quality of education. With respect to the last item, the Task Force came to the discouraging conclusion that the data available on the quality of education are quite incomplete at the high school level and almost nonexistent at the elementary school level. This is not the place to report in detail the findings and recommendations of that Task Force, although they will be of intense interest to all of us, but rather to note several relevant observations and conclusions the report provides. The central theme is the necessity "to provide an educational process in math and science to achieve a continuing improvement in student performance standards at all levels." It observed that improvement in teacher training and retraining will take too long to fulfill the immediate urgent need and, therefore, "much more participation is needed in all stages of the educational process from earliest elementary grades through graduate school by specialized math and science professionals employed in industry, business and government." It's strongly recommended that these professionals and their employers "devote significant time and resources to improve the educational process by direct involvement in the classroom, the school laboratory and with teacher education."

Observing that "historically our societies provided greater financial rewards for those charged with the quality of production and maintenance of things than for the quality of production and maintenance of minds," the Task Force reached the inescapable conclusion that "teachers must be paid more for their efforts and attain a position in society commensurate with other professionals." Totally absent from the Task Force Report and recommendations were any mention of or concerns for pedagogical skills per se. It was realistic in its insistence

that the mission was to "make improvements on what exists, not take corrective action on something wrong" and the need "to make improvements in teacher quality, both in original training and in continuing training." The only gesture which might address pedagogy was the acknowledgment that there was "need to make improvements in curriculum, in the material presented and in the quality of presentation."

As I tried to educate myself concerning the topic I am supposed to address, I repaired to two recent studies which promised some enlightenment. Both have assumed major significance during the past year or two, one by Ernest L. Boyer under the auspices of The Carnegie Foundation for the Advancement of Teaching, *High School: The Report on Secondary Education in America*, and the other by John I. Goodlad, *A Place Called School: Prospects for the Future*. I was pleased to discover that both volumes have much to say, although I am not sure either made me an expert on the subject at hand. Goodlad, observing that "teacher education programs are disturbingly alike and almost uniformly inadequate," identified a number of conventions and traditions to be overcome if change is to occur. Briefly, they are:

1. The general indifference of college and university faculties "even in those institutions recently 'graduating' from classification as teacher's colleges." However, he did feel that a useful activity for any undergraduate faculty would be that of designing "the best general education for a future elementary school teacher. It is a general education that elementary teachers very much need—which, when defined, would look very much like the liberal education many of us would find appropriate for all college students. Such education precedes or accompanies professional preparation to teach." He then asks rhetorically, "What college presidents are ready to lead their faculties in this significant task?"
2. He observes the significant gap between subject matter in departments and schools of education. In some institutions, this problem has been addressed, particularly at the level of secondary education preparation. At too many institutions, however, his observation is still appropriate when he notes that "the problem is most serious in the major universities, where professors in the teaching of a subject have no clear home base. A professor in the teaching of science has little support in any of the science departments and is effectively cut off from scholarship in biology and chemistry or physics if located in the School of Education."[1] At Northern Illinois University, students seeking secondary education certification are required to major in a disciplinary department, whether that is mathematics, art, music, history, or the sciences. In addition, the methods courses

required are offered either within the disciplinary department or, on occasion, in an interdisciplinary course involving students from related disciplines such as history, sociology, and political science.

3. He notes with some despair that the "high expectations for research in leading universities tend to work against a commitment to teacher education by professors in the schools of education." He even quotes a fictitious dean who presumably stated that "his school's commitment is to study teacher education, not work at it." In part, a response to this problem, and it is a genuine one, is greater attention be given to and rewards provided for faculty involved in the important clinical component of teacher education.
4. He also expressed concern over the "common practice of assigning student teachers to classroom teachers in schools selected somewhat casually for this purpose." There will always be a problem in adequate supervision of clinical experiences, but that is not a unique concern for schools of education. I have seen and addressed the same concern in internship programs in my field of public administration, and I know that the same concern exists in nursing and allied health clinical experiences.

Engaging and provocative as it is, *A Place Called School* offers no nostrum which would enable me to answer the question posed at the outset, "What is the most productive mix of pedagogical and discipline courses?" I then turn to Ernest Boyer and The Carnegie Foundation Report. The four essential goals stated in that report sound reminiscent of those enunciated by the Governor's Task Force on the Quality of Education in Mathematics and Science. They are, briefly:

(1) The high schools should help all students develop the capacity to think critically and communicate effectively through a mastery of language.
(2) The high schools should help all students learn about themselves, the human heritage, and the interdependent world in which they live through a core curriculum based upon consequential human experiences common to all people.
(3) The high schools should prepare all students for work and further education through a program of electives that develop individual aptitudes and interests.
(4) The high schools should help all students fulfill their social and civic obligations through school and community service.

What is the essential tool? The Boyer response is one that none of us could dispute; essentially, it is "literacy." The first curriculum priority, Boyer notes at the beginning of his chapter, is language. He ends the chapter with the obvious conclusion that "language defines our humanity." The mastery of English is the first and most essential goal of education. The second curriculum priority, Boyer concludes, is "a core of common learning—a program of required courses in literature, the arts, foreign language, history, civics, science, mathematics, technology, health—to extend the knowledge and broaden the perspective of every student." Few would disagree with that conclusion, but it begs the question of how we get there. My colleague on the Governor's Commission on Science and Technology to whom I referred earlier, who is not an educator, but who is as intensely concerned and broadly knowledgeable about education as anyone I have met, felt that useful as it is to attempt the measurement of student achievement, the more essential task is the measurement of teacher competencies. If those are lacking, flawed, or jaded, the student will ultimately have to go it alone. The real issue is how to teach prospective teachers and do it well. The Carnegie Report proposes a five-step program to meet that awesome challenge.

1. The first two years of teacher education should be dominated by a curriculum providing a core of common learning relying primarily upon the disciplines in the arts and sciences.
2. There should be a careful screening and selection process for admission to teacher education and that should not occur until the beginning of the junior year. Boyer suggests a cumulative grade point average of 3.0 as an admissions threshold, plus letters of recommendation.
3. The education major's junior and senior years should be devoted "primarily to the completion of a major in an academic discipline and classroom observation."
4. The most dramatic departure from existing teacher education curriculum and practice is Boyer's recommendation that every prospective teacher have a "fifth year" of instructional and apprenticeship experience. That year should be devoted to what conventionally has been called "pedagogy," but with some new emphasis. A recommended four course sequence covers major bodies of knowledge and practice such as: Schooling in America, Learning Theory and Research, The Teaching of Writing, and The Use of Technology. The final year would include classroom observation and teaching experience.

The Carnegie Commission Report, although ostensibly addressed to the American high school, acknowledges the essential preconditions for effective secondary education. Specifically, there is recognition of the

central role of the elementary school experience during which "students should learn to read and comprehend the main ideas in a written work, write standard English sentences and present their ideas orally." In addition, the English proficiency of all students "should be formally assessed before they go to high school."

Having read and ruminated over the question, "What is the most productive mix of pedagogical and discipline-based courses?" I am probably not better off than I was when I started. Except I have a better sense of the complexities and realities which define the environment within which we must function. It is clear that as universities concerned with teacher education, we have an obligation to monitor that mix. I remain convinced that the education of elementary teachers, which frequently has enjoyed a low priority, should become a major mission for schools of education. If the knowledge, theories, practices, professional values, and methods required to transform the elementary school experience into an exciting and challenging one for young people are central, then that task of developing this is clearly, in my mind, the basic responsibility of the school of education. My scientific sample of one, my own daughter, tells me this is so. The literature I have read confirms this. My own involvement with our own five children through the elementary school experience also tells me this is appropriate.

The preparation of secondary school teachers, in my judgment, requires an entirely different agenda. The recommendations of The Carnegie Commission make enormous sense, and, indeed, I would endorse the five-year curriculum if that became a required protocol for all colleges and universities in the United States. I am not familiar with the manner in which other universities structure the education for secondary school teachers. I am satisfied that the approach taken at Northern Illinois University not only makes sense but is consistent with the broad outlines provided by both Boyer and Goodlad. The secondary education major is simultaneously the responsibility of the College of Education on the one hand and a disciplinary academic department on the other. The student majors in the disciplinary department, the student usually takes the teaching methods course within the disciplinary department, and the student must meet the academic major requirements for that department. I would urge, in addition, a dispassionate evaluation of the number and content of the pedagogical course requirements and attend very carefully to the recommendations and implications of The Carnegie Commission's Report with respect to the "fifth year." Certainly, future teachers should have, at a minimum, an understanding of the roots of education in the United States and how the public schools began and what their role and mission has become. They also should understand and appreciate the theories of learning, "the way teachers teach and students learn," and possess a solid grounding in psychology and psychological research on that central

professional concern. It is critical that the prospective teacher become a role model in clear writing, clear expression, and clear thinking. "Every teacher should be prepared to help students write better," and that is a difficult assignment if the teacher lacks those fundamental and necessary skills. Finally, future teachers must increasingly be both knowledgeable of and unintimidated by the new technologies that will make learning both more challenging and more effective. I leave it to curriculum specialists to devise the minimum number of challenging courses to address these central themes.

The intellectual climate has been enriched by the reports addressing the quality of American education in a fashion somewhat reminiscent of the national response to Sputnik almost three decades ago. That excitement will wane quickly as new "hot buttons" move to center stage and it is our responsibility, indeed our mandate, to do what we have known for years needed to be done to improve public education. The blame heaped upon schools and teachers has taken the appearance of a national exorcism when, in fact, there are few villains and certainly no heroes. As the Governor's Task Force on the Quality of Education in Mathematics and Science observed, our society generally has reserved its plaudits and rewards for those charged with the quality of production and maintenance of things rather than for the quality of production and maintenance of minds. I do think for the first time in a generation, the climate is ripe for change, and if we aren't the agents of change, then what emerges is as much our responsibility as if we had taken the leadership.

What is the Most Productive Mix of Liberal Arts, Mathematics, and Science Courses in Teacher Education Programs?

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As an undergraduate student at Illinois State Normal University more than a few years ago, I noted Plato's admonition displayed on a wall of Capen Auditorium: "A good education consists in giving to the body and to the soul all the beauty and all the perfection of which they are capable." As one whose undergraduate education prepared him to teach and whose faculty-administrative experience has dealt primarily with the improvement of undergraduate general education, I chose to address the question—what is the most productive mix of liberal arts, mathematics, and science courses?—from the experiential perspective. Let me begin by making one fundamental assumption: a good general education program for all undergraduate students and a good general education program for those preparing to teach must be one and the same program. Focused attention upon improvement of undergraduate general education requirements is fundamental to the improvement of educational programs at all levels and is, therefore, the subject of this inquiry into the substance of such a program.

The inquiry requires examination of three questions: What is the nature of science, mathematics, and the liberal arts? What is the appropriate mix of these disciplines in a solid general education program? What can we do to improve general education in our colleges and universities and thus substantially and substantively improve all educational programs?

Nature of General Education Components

Science is perhaps best understood as both (1) a body of tested facts and concepts that satisfactorily interprets natural phenomena and discloses causal relationships and (2) as a means for discovering such facts and principles—a combination, that is, of scientific knowledge and method. Modern society requires large numbers of scientifically skilled technicians and practitioners as well as scientists who can solve problems and add to the knowledge base through their research. An equally important goal of the academic scientist, however, must be that of educating all students in the scientific understanding necessary to cope intellectually with their environment and to contribute to both their own well-being and that of society. General education must include exposure to both the physical sciences (physics, chemistry, and geology) and the biological sciences.

While some would consider mathematics as the language of science, it is better understood, as both an art and a science, as the study of quantity, form, arrangement, and magnitude by the use of well-defined symbols and concepts whether for abstract (pure mathematics) or practical (applied mathematics) use. Beyond its most elementary form of arithmetic, lie the spatial study of geometry, the more abstract study of algebra, and the analytic approach of calculus, fundamental to nearly all applications of mathematics in modern science. Again, beyond the education of professional mathematicians, the college or university mathematician has the responsibility to contribute to the general education of all undergraduates. A fundamental understanding of modern mathematics and some familiarity with the uses and limitations of computers are essential tools for the educated person.

The definition of "liberal arts" is more illusive than is definition of science and mathematics. We know, of course, that the term was originally used to designate those studies suited to freemen: thus, the Latin word *liberalis*, pertaining to a free man. The Greeks and Romans understood the liberal arts to constitute an education appropriate to the free person. In the Middle Ages, the term liberal arts was applied to the trivium of grammar, logic, and rhetoric and the quadrivium of arithmetic, geometry, astronomy, and music. The broader Renaissance interpretation of liberal arts as studies which impart a liberal, as opposed to specialized or vocational, training corresponds more nearly to modern interpretation. Beyond science and mathematics, the liberal arts are generally assumed to include the humanities (literature, foreign languages, philosophy, history, and the fine arts) and social sciences (economics, political science, psychology, and sociology). Communication, whether defined as a liberal art or not, is by growing consensus a final essential for the development of the educated person, particularly as it is concerned with the development of writing and speaking skills. On my own campus, for example, in addition to a year of composition and literature and a semester of speech, we now require successful completion of a writing competency examination as a graduation requirement. Without hierarchy, then, the general education curriculum may generally be defined to include communication, humanities, mathematics, science, and social science with products of knowledge, understanding, and intellectual abilities perhaps best defined in *General Education in a Free Society* as enabling graduates to think effectively, to communicate thought, to make relevant judgments, and to discriminate among values.[1]

Appropriate Mix

I am personally less interested in what quickly becomes a highly political question on any campus—what is the appropriate mix of science, mathematics, humanities, social science, and communication

courses in the general education program required of all undergraduates?—than in the question, what is the relative balance of general and specialized education in the total undergraduate curriculum? Two trends are clear over the past two decades: First, there has been a marked trend away from specific requirements and toward distribution requirements—allowing the student to take any of long lists of courses to satisfy requirements rather than requiring specific courses. Only now is that trend beginning to be reversed. Second, and more important, there has been a clear, not surprising, and deplorable national trend toward reducing the proportion of the undergraduate training devoted to general education and increasing the proportion devoted to specialization in the major field of study. The Carnegie Commission's *Changing Practices in Undergraduate Education*, which studied changes in general education at 210 four-year colleges and universities across the nation, documents the change as twenty-two percent less general education in 1974 than in 1967.[2] Producing well-educated graduates, including those prepared to teach, requires that we both (1) define more closely a more limited set of courses appropriate for general education and include more specific course requirements in these programs and (2) increase the proportion of the total undergraduate curriculum devoted to general education. The first is the relatively easier task and the second may be close to impossible because of disciplinary accreditation standards and the inclination of students to want ever more courses in their specialized majors. As acceptable limits, I would set one-third of the undergraduate curriculum devoted to general education as an absolute minimum and forty percent as a highly desirable, if perhaps unattainable, maximum.

As to the other aspect of the proportion question, I believe the effort now underway in Illinois universities to reconsider those courses required in high school for admission to public universities--hopefully also to private colleges and universities—will and should profoundly affect the definition of university-level general education requirements. In fact, the effort now underway to define high school graduation requirements for college-bound students provides those of us concerned with higher education a very real opportunity to re-examine in a very meaningful context the nature of our general education requirements. What I am suggesting is that the general education of Institution A, which might require three years of coursework in the sciences including chemistry, physics, and biology with at least one laboratory course, might be quite different from that of Institution B, which might require two years of undefined science courses; and both institutions might have a yet different set of requirements for community college transfer students—even, perhaps, different sets of requirements for different community colleges depending upon what happens to the redefinition of general education programs at that level. In any event, regardless of

where and how the general knowledge, understanding, and intellectual abilities to think effectively, to communicate thought, to make relevant judgments, and to discriminate among values is obtained, we had best include the following minimum requirements in university-level general education programs:

1. At least one year of communication studies, probably coupled with a writing competency examination as a condition for graduation.
2. At least two years of mathematics-science studies, including a specified mathematics requirement and both physical and biological science, including exposure to laboratory science. The mathematics requirement might include or allow information systems/computer science as an alternative.
3. At least two years of humanities studies, including requirements in both history and the fine arts.
4. At least two years of social studies, including course requirements in economics and government.

We must maintain a proper balance between the arts and the sciences as we increase the rigor of our academic programs. Again, the specifics should be deferred until the high school course requirements for graduation have been determined. Some interesting proportional guidelines are provided in a recent ACT study, *Increasing Student Competence and Persistence.*[3]

Improvements Recommended

In the context now provided, allow me to make explicit some of those actions required to improve educational programs in Illinois:

First, once specific courses required in high school for students to enter universities are established, we must once again review our university-level general education programs. This review should both increase the proportion of the baccalaureate curriculum devoted to general education and increase the specificity of requirements within the broad areas of communication, humanities, mathematics, science, and social science.

Second, the redefined general education program should apply, without exception, to those students preparing to teach. What that means is that we should discontinue, discard, and not offer any general education courses tailored specifically for students in teacher education (e.g., science for the elementary school teacher as a general education course). Our definition of general education requirements must include and serve the needs of all students, regardless of their career objectives. The danger or risk of not doing so, as Edward Ducharme puts it, is that "teacher educators without a liberal education are boring . . . faddish . . . limited in their ability to help (and) . . . often humorless."[4]

Third, the preparation of teachers—what is referred to on this

campus by Helen Marshall as "the grandest of enterprises" in her history of the first century of the institution[5]—is a university responsibility, not just a School/College of Education responsibility. Our elementary and secondary schools in the twenty-first century will be only as good as the teachers we prepare in this last part of the twentieth century, and our arts and sciences faculties are responsible for a large segment of that education. If interaction between the public schools and higher education is vital to the improvement of our teacher education programs, interaction between our education and arts and sciences faculties is also essential.

Finally, there is the matter of funding excellence. If, for example, we are to require more work at both the high school and college levels in science and mathematics, as we should, then our State and Nation must be prepared to pay the cost of necessary improvements. That support will, without question, require at least three things: (1) providing funds for in-service training programs for public school teachers, (2) providing funds for necessary technologically-current facilities and laboratories for science and mathematics classrooms in both the public schools and universities, and (3) providing funds to recruit and retain a sufficient number of well-prepared science and mathematics teachers in our public schools. The schools and colleges of this nation cannot be expected to prepare a generation of first-rate scientists in second-rate facilities, and the nation cannot expect second-rate salaries to attract a generation of first-rate teachers. Current salary levels are simply not adequate to attract the best students into the teaching profession. Lest anyone think that this problem is limited to elementary and secondary schools, it is not. The same problem exists for teachers of teachers. In the period 1971 to 1983, while the consumer price index increased by 147 percent, the salaries of public university faculty members increased by only 75 percent.[6] Unless corrected, this loss of real income for faculty members will ultimately mean an inability to recruit able students into college teaching. Achieving excellence in the development of our human resources through education is not possible unless and until our nation is willing to make the necessary investment that is required to do the job. Ann Reynolds, a displaced Illinoisian who now serves as Chancellor of the California State University, has put it well:

> We need to reaffirm, and perhaps rediscover, the importance of teaching as a profession. We need to attract more talented young people to the field, and we need to reward them with the salaries and the respect they deserve. We who offer teacher training programs must provide a firm grounding not only in the methods of education but also in the disciplines our students will one day teach, and we must work with those teachers long after graduation to help keep their skills current and their enthusiasm high.[7]

Let me close this brief discussion with the words of Ernest Boyer

talking about the role of colleges and universities in serving as models for the public schools: "My advice to colleges is to develop a credible sense of what it means to be an educated person."[8] That continuing responsibility of higher education is worthy of our constant attention.

NOTES

[1] *General Education in a Free Society.* Cambridge: Harvard University, 1945. See also D. Bell, *The Reforming of General Education.* New York: Columbia University, 1966.

[2] *Changing Practices in Undergraduate Education.* Berkeley: Carnegie Council on Policy Studies in Higher Education, 1976.

[3] A. Forest, *Increasing Student Competence and Persistence.* American College Testing Program, 1982.

[4] E. Ducharme, "Liberal Arts in Teacher Education: The Perennial Challenge," *Journal of Teacher Education,* May-June 1980.

[5] H. Marshall, *Grandest of Enterprises.* Normal: Illinois State Normal University, 1956.

[6] "Planning and Budgetary Issues for Illinois Higher Education," Illinois Board of Higher Education, December 6, 1983.

[7] W. A. Reynolds, "What Is Right With Our Public Schools?" *Vital Speeches of the Day,* September 1, 1983.

[8] "Schools, Colleges, and the Urge to Reform: An Interview with Ernest Boyer," *AAHE Bulletin, September 1983.*

Certification and Competency Exams: What Should Be Tested?

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We are all aware of the recent commentary alleging that teachers we graduate are incompetent and ill-prepared. I want, however, to begin not with a summary of this negative criticism, but with some reminders of the progress we have made and the effort we have underway. A study completed at Illinois State University, for instance, compared the academic performance of teacher education majors with non-education majors in the same fields. The results showed that education graduates compare favorably or perform better than non-education graduates in the same courses. Moreover, these graduates also had higher ACT scores than other graduates when entering the institution. It should be noted that this study was limited to "native" students only; it did not include transfer students, e.g., community college graduates. If, however, we were to assume that what ISU found is valid for all our public institutions—and it may well be—then we need to ask ourselves what all the fuss is about. We are, it would seem, doing as much as can be expected in educating teachers.

Our teacher education graduates, on the average, clearly are better prepared than they used to be. The periodic reviews of programs by the State have—for all of their faults as perceived by some—insured more attention to subject matter areas, particularly in general or liberal education. Moreover, most of us have over the past few years stiffened requirements, introduced proficiency exams, and, in a number of other ways, acted to evaluate all of our students, including prospective teachers, more rigorously and more effectively. And, of course, individual professors have continued their normal activities of instructing and evaluating students. I am aware that in my own institution—and I assume the same has occurred in yours—individual professors have continued to be supportively demanding of students and to counsel out those students who are not sufficiently competent.

On the average, we are doing better than we were a decade ago. But the question is whether we are doing well enough. Let me illustrate. In student teaching, we expect a rigorous assessment of the prospective teacher's knowledge and teaching skill. Grades given during student teaching statewide suggest that we are not producing only average, but superior, teachers. Of all those enrolled in student teaching, 75% receive A's and 20% receive B's. These high grades may, however, point not to excellence and superiority, but a failure to achieve the rigorous evalua-

tion we seek. While not as dramatic, other of our actions and policies also can stand scrutiny. While we bemoan the limited science and mathematics backgrounds of elementary teachers, Illinois institutions as a group usually permit one or both of the following practices: (1) substitution of work in the teaching of mathematics and science for work in science or math departments; and (2) balancing a "D" performance in these areas with "B's" in other areas. Finally, even when we have established competency or proficiency tests in areas such as composition and mathematics, the required proficiency is usually at the eighth- to twelfth-grade levels. This list of such examples could be extended.

We do have some further improvements to make as our critics remind us. For instance, in a recent column in the Chicago *Tribune* dated January 15, 1984, Dennis Doyle—a long-time critic of teacher education and licensing and architect of California's Ryan Act—makes the following assertion:

> As numerous studies have shown, the average American teacher is not an intellectual. The learning impediment placed by teachers who are duller than their students has been compounded by one of great equalitarian shifts . . . of the past two decades: eliminating tracking . . . When students are tracked, teachers are too.

He continues by asking us to imagine a bright math student with a combined SAT of 1450 trying to learn about inductive logic or non-Euclidean geometry from one of the nation's average teachers who likely scored about 815 on the SAT.

Doyle's commentary is perhaps a bit flamboyant and exaggerated. Whatever its potential shortcomings, however, Doyle's point of view is widely shared among educators and the general public. It is this: at this point we need not worry so much about whether teachers can teach, but whether they have sufficient knowledge and skills to convey to their students. Doyle's commentary is but the last in a litany of such complaints. It has been preceded by special reports on CBS, cover stories in *U.S. News and World Report*, and *Time*, and a host of reports issued by prestigious panels and groups.

The Joint Education Committee in Illinois in spring 1982 forwarded to Governor Thompson a report that included a similar finding. First year college students enrolled in Illinois institutions planning to major in education scored low on ACTs compared to other students. They scored an average of 18.1 compared to an average of 19.4 for all students. Almost one-third of the education majors scored 15 or below. Further, there has been over the past decade or so a decline of the scores among women intending to major in education, from 20.3 to 18.1. While 54% of the women going into education scored 21 or above

in 1971-72, only 33% did in 1981-82. We have not yet taken decisive action to address this situation.

Even though we are doing considerably better in our institutions and even though our intentions may be to secure even more improvements, the perceptions of our critics are indeed based, in part, on a set of facts that prompts further action. Almost invariably one of the proposed actions is to test our prospective teachers—even more than we are and preferably with standardized tests with "high" but undefined scores required. Before addressing the notion of testing directly, I want to discuss a bit of recent history, that is, our experience with competency-based education during the 60's and 70's. This brief history illustrates some of the likely shortcomings of implementing testing schemes as some are proposing.

As you will recall, in the 60's and 70's considerable energy was expended on the development of so-called "competency-based" education. It was perhaps most thoroughly implemented in the area of teacher education. The theory of competency-based education held that various competencies necessary for graduation, and often for effectively working in an occupation, could be identified with precision; and a student could be examined in some way to determine whether he or she possessed those competencies. Fundamentally, this theory held that the possession of a competency was of primary importance; how one acquired it was of little importance. Moreover, advocates of competency-based education asked us to assume that mere possession of these competencies would mean that the possessor of them was generally competent, at say, teaching.

The results of this venture into competency-based education were, of course, disappointing. Among its several flaws was the assumption that an aggregation of competencies yielded competence. The necessary was substituted for the sufficient. Let me illustrate. We all know that some writers have a very good command of the mechanics of writing. They never misspell a word, never write incomplete or run-on sentences, and never use inappropriate diction and so on. Yet we do not necessarily regard these writers as "competent." Not only do they perhaps not have much to say, but they fail to achieve coherence, focus, and persuasiveness. I am suggesting through this example that "competence"—as we normally use the term—refers to a holistic judgment and not to the identifiable aspects of competent action. A car mechanic who can competently repair the alternator in my car but who cannot ably repair my faulty brakes is not competent.

The proposals to test our prospective teachers present the same, and additional, problems. Testing, whatever the kind of examination or the level of the cut-off scores, asks us to substitute the counterfeit for the real, the necessary for the sufficient. When we speak of competence in teaching, we are asking whether Mrs. Alvarez can teach Ricardo and

Jimmy to read and solve mathematics problems. We do not ask whether she passed a proficiency test in reading or addition and subtraction. When we speak of competence in teaching, we do not ask whether Mr. Jones has passed a writing test, but whether he can teach Maria and Shirley to write. To begin relying on tests as a way of sifting the competent from the incompetent very likely will result in distorting the notion of competence as happened under the aegis of competency-based teaching.

My remarks should come as no real surprise. We frequently forget that permission to teach during much of our history in the United States has relied on testing. In Illinois, well into the twentieth century, high school graduation, perhaps some college work, and passing certain tests got one into teaching. In fact, the current State Teacher Certification Board was preceded by a State Examining Board for Teachers which set the certification examinations administered by county superintendents. (Parenthetically, three presidents of Illinois colleges and universities constituted one-half of the membership of this board.) Moreover, testing is still relied upon by the Chicago and New York City school systems for issuing certificates to teach in the schools of these cities. The available evidence does not suggest that teachers certified under these testing programs were or are superior to those we routinely graduate.

We also need to address some of the practical issues that attend relying more heavily on testing prospective teachers as a means of assessing competence. Several states have pursued such policies; these policies have most frequently stipulated that established scores must be achieved either before entering a preparation program or after graduation and prior to certification. Consideration of such a policy, however, leads into a thicket of thorny issues:

1) We need to determine whether we want to compare the performance of would-be teachers to other groups (normative testing) or to distingish between those who have and who do not have the stipulated skills or knowledge (criterion-referenced).
2) If we elect to pursue criterion-referenced tests, the costs are likely to be prohibitive. The Illinois State Board of Education has estimated that it would cost over $1.5 million to develop examinations for the fifty or more areas in which applicants are certified.
3) The impact on minority populations in Illinois institutions may be significant. In Florida, which requires scoring at the 40th percentile on the SAT, there has been a 25% overall decline in applicants for certificates and a 92% decline among minority students.

4) Finally, reliance on a single test score carries with it the likelihood of significant and complex litigation, particularly if one must establish a manifest relationship between the scores required and subsequent performance on the job.

While erecting a testing system of some sort is attractive because of its apparent simplicity, we believe that the conclusion of the State Board of Education staff, after they studied developments in several states, should be heeded:

> Testing research and practice indicate that it would be more appropriate to establish known standards and test at the beginning of the potential teacher's collegiate program for general skills, and, if necessary, provide remediation at this level. If the student then qualifies to continue. . .a specific plan for assessment of teaching skills and content knowledge should follow through to graduation.

We, too, believe that the assessment of prospective teachers must begin early and continue through to graduation and that it must be multifaceted and not rely on a single kind of measure. We would, therefore, outline the elements of what would constitute a plan for improving our performance in this area.

The first element that we need to focus on is that of general or liberal education. Although institutions differ rather markedly in their conception of what constitutes general or liberal education, we all have committed ourselves to insuring that all of our students emerge from undergraduate studies with at least an awareness, if not a profound understanding, of the basic character and content of the major disciplines, usually grouped under the headings of science, humanities, and social studies. We do so for a variety of reasons, ranging from notions of the "well-informed citizen" to those of the "well-educated" person. Over the past few years, however, and for a variety of reasons, the percentage of our curricula devoted to these areas has declined rather markedly and our conception of what constitutes a liberal education has changed. All of us have probably allowed such courses as "Physics and Society" to substitute for real sciences courses; "Introduction to Computers" to substitute for mathematics; and a general communication course to substitute for composition. While we may need to look at these areas for a number of reasons, we are compelled to do so when we consider educating teachers. We certainly expect teachers to emerge as liberally educated as others; but we must, in our view, demand even more of teachers. Elementary teachers, particularly, are expected to teach the content of virtually every major disicipline. A high percentage of secondary teachers in Illinois will teach outside their major areas; and even if they do not, they need to be well-grounded in other disciplines to understand how the subject they teach relates to the rest of the curricula.

We believe that the liberal education component of our teacher education programs is perhaps the most critical area for our consideration. It is in this area that we urge reliance on testing as a primary means of assessing our prospective teachers. As we conceive such a venture, it would be broadbased and comprehensive and not limited to testing only competence in mathematics and composition. We would like to see such testing include the social sciences, the sciences, and the humanities and fine arts as well as mathematics and composition. We believe that prospective teachers should be able to solve quadratic equations and be able to interpret a simple computer program written in BASIC. We also believe that they should demonstrate knowledge of leading economic thinkers such as Marx and Keynes, leading philosophers such as Locke, Hume, and Wittgenstein, artists such as Michelangelo and Renoir, novelists such as Dickens and Faulkner, poets such as Langston Hughes and Chaucer. We could go on; our list of examples is not inclusive.

The point is that we believe that, for prospective teachers, a liberal education cannot remain simply a goal; it must also be realized. We therefore recommend that, prior to proceeding into a teacher education program, candidates should be required to sit for examination—essay examinations—in mathematics, science, social studies, the humanities, and particularly history. We see no alternative to such a scheme. We can continue to tinker with our liberal education requirements; but, regardless of the number of committees we form or how long we think about it, the results—as examination of virtually any catalog will confirm—are replete with political compromises among factions on our campuses, with each group getting some of its courses listed as required or elective courses.

Once admited to teacher education, we believe that the candidate should be subjected to continued rigorous assessment. Here we recommend a portfolio approach, with our efforts aimed at holistic rather than piecemeal evaluations. We take our lead here from Judith Lanier and James Guthrie, both of whom have suggested this approach. We are also aware of the experience of the University of Illinois-Urbana in using such a system with prospective educational administrators. We see such a portfolio as including, not only the kind of highly summarized data now included in student files—grades, grade point averages, faculty recommendations—but samples of written work, detailed accounts and records of educational accomplishments in schools, the community, and independent study. A variety of such relevant evidence provides an expanded basis for assessment beyond transcript analysis and interviews or reliance on paper-and-pencil tests.

We recommend serious consideration of this approach because what we seek is a holistic assessment of our teacher candidates to replace the present process that relies heavily on a course by course

approach. Does the system we propose raise significant problems? The answer is yes. Our legal advisors are likely to point out endless hypothetical situations in which students may sue us because judgments are not anchored in quantified requirements. Certainly such a system will require more faculty time; and we can foresee even more filing cabinets filled with paper. But we cannot have it both ways. We cannot bemoan like Dennis Doyle the lack of intellectuals among our teaching force and simultaneously say that we can't assess our students rigorously and comprehensively.

So far we have focused almost totally on the intellectual development of teachers. We have done so because an intellectually incompetent teacher is an incompetent teacher. One simply has to have something to teach to be a teacher. On the other hand, knowledge and academic skill alone is only a necessary and not a sufficient condition for excellence in teaching. We speak here of more than a love for children or a desire to help them. While often overemphasized by teacher educators, teachers do need to know how to teach what they know. As Gilbert Ryle has pointed out, there is a difference between "knowing what" and "knowing how." I know what makes my car work, but I do not know how to make it work. I know the rules of chess and something of the theory of the game, but my record suggests that I know more of the what than the how. In the case of teachers, we need to attend to the "how" as well as to the "what." In this area, we face extremely complicated issues, and we get very little help from educational research. The available research simply does not allow us to assert causal relationships between various ways of teaching and student achievement. Competing theoretical models and idealogies abound, and the research typically yields no significant results or is contradicted by equally rigorous research. Yet, we cannot afford to allow the lack of certainty to deter us from addressing "know how."

We believe that, in spite of these conflicts and contradictions, we can implement rigorous assessments of the candidate's capacity as a practicing teacher. The State has assisted us by requiring experience in schools prior to student teaching. We can get an early look at the fitness of students for teaching. We can assess their capacity to work with children and adolescents, to design and execute lessons, and to assess the progress of school children. We can develop a prognosis of the student's ability to teach math or science, to see if the student teacher can motivate students and successfully negotiate the pitfalls of acting with personal and intellectual authority in a classroom. Here we would point to the experience of Illinois State University and Northern Illinois University among others. Both of these institutions have developed a system under which students who are not performing adequately in practical settings are required to remediate their deficiencies or to leave the program. We are particularly attracted to Northern's approach which

allows any professor who has worked with a student to raise concerns and to cause a committee of faculty to evaluate the student's progress and performance and counsel intensively with the student.

Perhaps you perceive me as failing to stick with the announced topic of my paper—testing the teacher and what we should test. I have not, as it turns out, advocated extensive reliance on standarized tests for the reasons I cited above. These reasons can be summarized, I believe, by the aid of an analogy. When we think of testing prospective teachers, we appear to think of tests as stop signs. The traffic policeman can easily tell whether someone stops at a stop sign. We can tell readily whether someone passes a standarized test. What I have advocated, however, is more on the order of the policeman determining whether someone has driven recklessly or negligently. Here the policeman is not enforcing a simple rule but making a holistic judgment. The discrete actions of the driver are not the focus, but the driver's pattern of action in a particular context. He is, we might say, concerned not with a rule but a standard. My comments have been focused on the necessity of implementing standards rather than rules.

I conclude my remarks by noting the increasing political and social pressure for us to improve the quality of our prospective teachers. At this moment, the State Board of Education is considering the advisability of adopting more rigorous and uniform conditions for admission into and retention in teacher education programs. It is likely that the General Assembly will once again consider a bill calling for some kind of testing program for those wishing to be teachers. While we may wish to support or oppose these efforts, it is my view that the outcomes of such policies, even if helpful, are likely to be very minimal requirements and requirements that are likely to be adjusted over time in response to a variety of political and economic pressures. I believe it is our duty as representatives of public institutions and as individual educators to take on the task of establishing rigorous assessment of our teacher candidates, regardless of what our state legislature or the State Board of Education does.

The Role of Arts and Sciences in Teacher Education

Dr. Earl Lazerson
President, Southern Illinois University at Edwardsville

From my viewpoint, the role of the arts and the sciences in teacher education is very little, if any, different from their role in all of education. In historical perspective, we can see that the question of that role, though until recently lingering below the surface of explicit discussion, has been with us since the late decades of the nineteenth century. In the intervening years, there has been a steady, conscious questioning of the goals and purposes of education and of the manner in which those purposes may best be accomplished. Only in the past, however, has the debate become a matter of critical interest to the nation at large.

Involved in the quest for answers have been other related controversies which must be considered before we can speak confidently of the manner and the extent to which the arts and sciences ought to serve education and, particularly, the education of teachers. As a social institution, should education be a reflection of the society in which it is imbedded? Should it mirror, preserve, and reinforce the values and serve the perceived needs of that society, fully recognizing its allegiance to a generally accepted set of ideas and ideals? Is education an agent of social control? Or does it have a responsibility to act as a critic, to seek novelty, to experiment with innovation, to break through the "cake of custom," to provide bold leadership calculated to light up the pathway of change?

A brief excursion to the ancient past will demonstrate that perplexity and disagreement concerning the appropriate content of education and the ends to which it should be directed have not been confined to the modern world. More important, the examples that I shall offer are impressive because they impart a sense of the high seriousness with which prominent and learned men of another civilization self-consciously grappled with problems that have a thoroughly modern ring. Witness the musing of Aristotle in an expression of concern more than two thousand years ago:

> That education should be regulated by law and should be an affair of state is not to be denied, but what should be the character of this public education, and how young persons should be educated, are questions which remain to be considered. As things are, there is disagreement about the subjects. For mankind are by no means agreed about the subjects to be taught, whether we look to virtue or the best life. Neither is it clear whether education is more concerned with intellectual or with

moral virtue. The existing practice is perplexing; no one knows on what principle we should proceed—should the useful in life, or should virtue, or should the higher knowledge, be the aim of our training; . . . [1]

Although Aristotle's identification of a certain confusion in his day may have applied to the indecision of others, his own position on the purposes of education embraced all three goals: the teaching and learning of the practical or useful; the attainment of virtue; and the inculcation of a striving for the higher knowledge—each goal related to the others within an educational theory woven into the fabric of a philosophical and psychological view of man, his place in nature, and his relationship to society.

There was no doubt in Aristotle's own mind as to the proper locus of educational control. Education was an enterprise to be both nurtured and guided by the state, a conclusion based on an underlying concept of the state as a structure existing for the purpose of facilitating the good life. In his view, the citizen's pursuit of the good life fostered and supported the state and confirmed its reason for existence. It is a little difficult to reduce the Aristotelian understanding of the good life to terms that make much sense within the discourse that now swirls around education. In oversimplified form, it was a condition in which men, through the exercise of natural propensities or dispositions appropriately developed through habit and with training in speculative thought, attained eternal knowledge and earthly wisdom as guides to moral action. The end of the good life was happiness, an affirmation that would not again surface as a legitimate goal of the individual prior to the advent of the American Enlightenment.

While Aristotle departed from his teacher, Plato, in certain philosophical respects important to scholars of philosophy, both men believed that education should be controlled by the state so that it could carry out its function of making possible the good life. The objective of Plato's system, which began with early childhood and progressed through various stages of maturation, was the eventual emergence of a ruling class, the distillation of whose attributes might properly find form in the person of a philosopher-king, in later centuries to be celebrated in mythological and utopian literature of poetry and song. Plato describes commencement day as follows:

Then, when they are fifty, those who have come safely through and proved the best at all points in action and in study must be brought at last to the goal. They must lift up the eye of the soul to gaze on that which sheds light on all things; and when they have seen the Good itself, take it as a pattern for the right ordering of the state and of the individual, themselves included. For the rest of their lives, most of their time will be spent in study; but they will all take their term at the troublesome duties and act as Rulers for their country's sake, not regarding it as a distinction, but as an unavoidable task. And so, when

each generation has educated others like themselves to take their place as Guardians of the commonwealth, they will depart to dwell in the Islands of the blest.[2]

Contemporary students may well be dismayed at the prospect of an educational process terminating at age fifty. Feminists have no doubt taken comfort in the fact that Plato has Socrates commenting to Glaucon that the portrait of the Rulers "applies just as much to any women who are found to have the necessary gifts."

The significant characteristic of the philosopher-king was an apparent inability, as an outcome of a rigid curriculum leading to a grasp of the absolute good, to rule other than in the interests of the citizenry. The selection at given levels of the most promising students to receive further training looking to membership in an elitist ruling class may remind us of the standardized tests by which we choose those whom we admit to the study of preferred professions, especially medicine and law.

Athenian education as visualized by Plato and Aristotle was firmly grounded on a base of the arts and sciences as known in the world of Hellas several centuries before the Christian era. Was it intended to be a model for the training of teachers? I think we must answer in the affirmative while at the same time recognizing that it addressed environmental boundaries transcending the classroom of books and lectures, much as I believe we must do. Both Plato and Aristotle were disdainful of the methods and morals of the Sophists who, from their observation, pandered to the rich and denied the existence of objective and universal truths. In a special sense, the Platonic system was intended to supply correctives deemed to be of importance in the education of that most important teacher—the giver of laws.

A journey from the Hellenic world to the opening curtain of American civilization requires a staggering leap in time and imagination, encompassing as it does, momentous historical movements shaping and reshaping every facet of European life and contributing to the accumulation of a vast, incredibly rich storehouse of literature and tradition in the saga of education. It takes us through the rise and disintegration of Rome; the spread of Christianity; and the medieval hegemony of the universal church; the brilliant literary, architectural, and philosophical accomplishments of the high middle ages and early modern times; the emergence of nation states; and the beginnings of modern science in the sixteenth century accompanied by a new humanistic outlook together with fragmentation of a theistic universe. The sixteenth and seventeenth centuries would see the expansion of Europe to the American continents and the establishment of permanent settlements on North American shores.

The intellectual and spiritual baggage of emigrants to early New

England naturally contained elements of the more recent developments of the European experience. For the present purpose, we note that it included a spirit of rebellion against old-world religious establishments and a conviction of the need of formal education. It is further noteworthy that the colleges which were inaugurated, partly as a result of religious zeal, followed the European classical liberal arts tradition. Their curricular core differed little from the time honored *trivium* which had been brought to a peak of refinement in the high middle ages. Translation of Greek and Latin texts would become the daily exercise of generations of students. The early colleges would ride out the revivalism of the Great Awakening in the mid-eighteenth century, a period in which other colleges would appear, and then accommodate an infusion of Scotch realism and other leavening from the Enlightenment of later decades of the same century. Theistic, but not narrowly sectarian, their teachings would form the staple fare of a protestant, evangelically-oriented mid-nineteenth century American higher education.

Confident that revealed religion and nature were not in conflict, the seaboard colleges had been friendly to science, and there was interest in European discoveries. But equipment was poor or lacking altogether and science was not at the center of attention. Elementary mathematics was considered a useful tool subject, modern languages made some headway in stronger institutions, and natural science gained recognition, although frequently it found expression in courses entitled "Evidences of Christianity." Courses in political economy and history were also offered.

The capstone of collegiate education was a series of lectures on moral philosophy in the junior or senior year or sometimes both, usually presented by the college president who was almost certain to be a clergyman. As the outline of a synthesis which has been characterized as "protestant scholasticism," it was a blueprint of the schema by which liberal education and nature confirmed the tenets of revealed religion. It further provided guidance for social, political, and economic deportment. With its identification of private property as an expression of the moral character of society, it gave its blessing to the prevailing commercial capitalism.[3]

The conscious thrust of this educational system was not the training of teachers, though an appreciable number of its graduates became college presidents and professors and carried forward its teachings. Because it retained a strong affinity with eighteenth-century republican social theory, its impact, as measured by the careers of prominent graduates, brings to mind features of the Greek tradition. For example, those who were students under the Scotch theologian John Witherspoon, a renowned exponent of moral philosophy and president of the College of New Jersey before and after the Revolution, included a president of the United States (Madison), fifteen United States senators,

twenty-four congressmen, three Supreme Court justices, and twelve state governors.[4] But there were important differences. More than time and space separated ancient Greece from the democracy of mid-nineteenth-century America.

Even in its time of dominance, the liberal arts college was under fire from critics who charged that the curriculum did not serve the technical and practical needs of democratic society. The founding of a number of technical schools as contemporaries of the colleges and the eventual establishment of land grant institutions under the Morrill Act of 1862 were responses to this criticism. Meanwhile, many universities in embryo were also created by the states as publicly supported centers of learning. However, it would remain the province of those most receptive to the post-Darwinian scientific temper to mount a successful challenge against the classical curriculum and the world view with which it was integrated. This, plus clear evidence of the rapacity of uncontrolled industrial development and mounting social ills, paved the way for far-reaching reform in the educational enterprise and, to some extent, in political life as well.

Out of the ferment of the last quarter of the nineteenth century and the first quarter of the twentieth has come the basic structure of today's higher education. We know it as an edifice consisting of a central core of humanities, fine arts, social sciences, and sciences including mathematics. On the periphery is a group of professional schools, typically selections among such fields as law, medicine, engineering, business, nursing, dentistry, social work, agriculture, education, and journalism. A graduate school is attached. Some of the professional degrees are graduate degrees, and some of the graduate schools are more or less free standing. Even the land grant universities, originally intended to provide training in the agricultural and mechanical arts, have assumed this configuration.

Mindful of the unfortunate results of earlier free elective experiments, we direct our undergraduate students during their first two years into a program styled as general education. In short, we require them to choose a distribution of courses from specified groups in the sciences, social sciences, and humanities, or we identify a certain number of courses as absolute requirements, or we provide a combination of the two systems. We do this on the supposition that as people of greater experience and maturity we know what is best. I am entirely in accord with that conceit. The student, having completed the general education requirement, may choose a field of concentration and work toward a degree in that specialization.

Viewed from a distance, the University pattern with its large areas of study suitably divided into departmentalized disciplines, its plan of general education and opportunity to specialize in particular disciplines, and its schools for advanced study appears to be more than

enough to satisfy the most discriminating individual taste and the most pressing of any social need that can be met through education. Nevertheless, we know that all is not as well as we would wish it to be. In one degree or another, there is dissatisfaction in several quarters.

On many campuses, there is an undertone of criticism by the arts and sciences faculties that their colleagues in the professional schools are too vocationally oriented to be sensitive to the finer things, such as study in the humanities. Professors of education, in particular, have been characterized as people who waste student time with methods or how-to-teach courses and lack the wit to equip them with anything to teach. Whatever their fields, many professors openly complain that students come from the high schools ill prepared to undertake work at the college level. Employers have been heard to lament that their university graduates are uninspired and lack basic skills of reasoning and communication. Finally, there is much student disenchantment with general education requirements often regarded as dreary hurdles to be gotten over as painlessly and with the expenditure of as little time and effort as possible.

Since the focus of my comments is on the role of the arts and sciences in teacher training, I shall first address the situation in which the schools of education find themselves. In recent years, they have been associated with flaws in the education provided by the common schools, and to a degree, unjustly so. A case can be made that those who are being prepared to teach in areas of primary and special education require greater methodological training than those who will work at the secondary level. There is a large, growing, and soundly-based literature concerning motivation and stimuli, i.e., the nature of the learning process within the early childhood and primary stages of growth. At any rate, most of the problems have been pinpointed at the secondary level. Here I must point out that in the universities with which I am acquainted, students trained for high school teaching are required to complete general education programs as well as some sort of concentration in subject matter areas. If they are poorly prepared, does not some part of the fault lie with those who supervised instruction in those areas?

Related to the foregoing is the question of poor preparation of students as they undertake university studies. I have no reason to disbelieve statistics showing that levels of high school achievement have declined. Nor do I doubt the reliability of reports, of which there has been a steady stream from task forces, foundations, professional associations, etc., that much of the blame lies with such conditions as overcrowded classrooms, problems of discipline, and low pay scales for teachers, the latter being especially a reflection of the difficulties encountered by school boards in finding adequate funding. But if there are problems with which the universities can be of assistance, it is a matter of common sense that we should enter into active partnerships

with the common schools in an effort to find ways of improving the quality of instruction and thereby improving the skills and the knowledge that students will carry to freshman classes at the university or to work. After all, the high school curriculum is generally a scaled down version of the humanities, sciences, and social sciences, and we hold ourselves forth as experts in those areas. Certainly we can be useful in the encouragement of common school students who display special aptitudes or skills. Here, however, for what it is worth, I think we must recognize a tendency to nudge such students away from teacher training and into concentrations in the "hard" disciplines. Perhaps we should give thought to the question of whether we can afford to deny the best minds in an enterprise as sensitive and important as the education of our children in their most formative years.

I turn now to what may be the most difficult matter, the too frequent apathy of students toward general education. Negative student attitudes will not be overcome, in my judgment, until we in education see general education as a truly cooperative and integrated venture among the arts and sciences. That will take some doing, for it will be necessary to overcome practices and habits that are deeply ingrained as folkways in higher education. Their origins go back to the breakup of the mid-nineteenth-century synthesis and the emergence of the sciences and social sciences from moral philosophy as distinct disciplines entitled to recognition as separate departments. I do not quarrel with that plan of organization; it is probably as useful as any. I do think that the loyalties thus inspired, and the resulting sense of isolation or separateness, has interfered with our ability to field a program of studies reflecting a consensus on the nature of a common intellectual experience for all who pass through the doors of the academy.

Some may feel that I am hostile to the disciplines. That is not the case. They must remain intact if they are to carry out responsibilities of advanced instruction and research. Nonetheless, curricular reform is necessary as Clark Kerr recently pointed out. "The academic enterprise is generally in good condition (said Mr. Kerr), but the curriculum is a disaster area. The curriculum today reflects more the internal pressures of student demands and departmental wars, as well as of external politics, than any sense of intellectual purpose." Kerr went on to say, "The faculty is not the constituency for liberal learning. . . . Faculty members are concerned primarily with what goes on in their own departments. They do not know the totality of the campus or what's available in other departments." He placed responsibility squarely on the president "as having the central role in reforming curriculum."[5]

Disagreeing with Kerr, Frederick Rudolph charged the faculty with the responsibility.

> If the American college graduate is weak in analysis and the spirit of inquiry, unable to communicate in his own or any other language

clearly and effectively, and with it all ethically unsure and ignorant of his own history and culture, the responsiblity lies not with the schools or with college and university presidents, or with politicians or the people, but with the professors. They have the power to will great change in the undergraduate curriculum. They should not be allowed to get away with pointing the finger of responsibility elsewhere.[6]

In this controversy, I take a middle course. In fact, at the very great risk of being misunderstood, I will say that I am nearly as interested in *how* courses are taught as I am in *what* is taught. Certainly, the president must clarify the goal of reform and also make it clear that he will not settle for less. Determination of the "what" must be a faculty responsibility carried out with active administrative support and encouragement. The "how" may turn out to be the difficult task, and while it will take some practice, I have not found the faculty intransigent. Not long ago, a faculty member in Philosophy mentioned that he was sharing the teaching of a course with a colleague in History. He remarked that the first time around had been rocky, but the second effort was working out pretty well "now that we have some idea of what we are trying to do." I propose systematic advance efforts be directed to an understanding of what we are trying to accomplish.

Again, with reference to student disinterest in what is perceived as the chore of plodding through a typical general studies curriculum, I note that American students come to the university from a social background that is bewildering in its diversity. Consciously or not, I believe they are in quest of some assurance that the world is not as hopelessly fragmented as it seems, for some sense of a relatedness of things. The "acids of modernity," to borrow a usage from Walter Lippmann, may have weakened the underpinnings of the social structure, but we do a disservice to the uses and value of liberal learning if we believe that its vigor cannot be restored and shaped to coherent and meaningful purpose.

Complaints of the world of business affairs with regard to the failings of university graduates seem to concern two areas: first, a low level of communication skills and second, an inability to adapt readily to circumstances beyond a narrow range of possibilities. The first must be approached through patience and hard work at every level of the educational process. A cure for the second should be the natural outcome of a refashioning of the undergraduate experience of young men and women.

We, of course, continue to hear from those in the tradition of Robert M. Hutchins that vocational training is not the province of academe. No one has advanced the argument more gracefully than John Henry Newman more than a hundred years ago in his comment that

> . . . the man who has learned to think and to reason and to compare and to discriminate and to analyze, who has refined his taste, and formed

> his judgement, and sharpened his mental vision, will not indeed at once be a lawyer, or a pleader or an orator, or a statesman, or a physician, or a good landlord, or a man of business, or a soldier, or an engineer, or a chemist, or a geologist, or an antiquarian, but he will be placed in that state of intellect in which he can take up any one of the sciences or callings I have referred to, or any other for which he has a taste or a special talent, with an ease, a grace, a versatility, and a success to which another is a stranger.[7]

Newman argues for the very qualities that ought to issue from an integrated exposure to the arts and sciences. But his life and thought predated both the rise of modern technology and the democractic ideal of mass education available to all citizens. University education will not survive and prosper if it isolates itself from the intricacies of the work place in an industrial age. If such isolation should occur, the nature of the work place will also radically change.

I have, in part, answered some of the questions raised in the opening paragraphs of these comments. The University in America in the late twentieth century is, as it has always been, an institution serving the needs of the society surrounding and nurturing it. There is an important difference between service and servility, and that difference must ever be defended. Innovation, experiment, and intellectual leadership must be matters of routine operation. If the university should submit to the importunities of ideology, special interests, or fashion, the arts and sciences will not play a meaningful role in the education of teachers, nor in the education of anyone else.*

NOTES

[1]Richard McKeon, ed., *The Basic Works of Aristotle*, 1944, pp. 1305-1306.

[2]Francis Macdonald Cornford, Trans., *The Republic of Plato*, 1941, Reprint 1973, pp. 261-262.

[3]Stow Persons, *American Minds*, 1958, pp. 189-200.

[4]Persons, p. 136.

[5]Karen J. Winkler, "Presidents or Faculties: Who Should Make the Key Decisions About Curriculum?" *The Chronicle of Higher Education*, January 25, 1984.

[6]Winkler, *The Chronicle of Higher Education*, January 25, 1984.

[7]John Henry Cardinal Newman, *The Idea of a University*, ed. Martin J. Svaglic, 1964, p. 125.

*I wish to acknowledge discussions on these ideas with numerous colleagues. The insights of Dr. Earl Beard have been of particular help in this endeavor.

Closing Remarks

Dr. Allan W. Ostar
President, American Association of
State Colleges and Universities

Four basic convictions serve to frame our conference here today and dozens of others like it that are being held across the land in this "year of education."

First of all, as educators, we know that the crisis in America's school system is genuine and that fundamental reforms are required to cope with it.

Second, we believe that while the educational crisis is national in scope and will ultimately require national attention, it must be dealt with, initially, at the local and state levels.

Third, we recognize that the movement to achieve excellence in education will succeed only if it is conceived as a partnership effort between the universities that prepare students for the teaching profession and the schools where that profession is practiced.

And, fourth, we realize that those who have assumed the mantle of the presidency of the special type of state universities that are represented here—AASCU institutions—must shoulder major leadership responsibilities in shaping statewide and nationwide policies to improve the schools.

That set of convictions guided AASCU's Task Force on Excellence in Education in preparing the policy statement and action program, "AASCU and the Nation's Schools," approved by the AASCU membership in November and recently distributed nationally. In the months and years ahead, the work of AASCU institutions, individually and collectively, will be assessed in terms of how effectively you—as chief executive officers—adhere to those convictions; of how well you play the dual roles of partner *and* leader in helping your universities, your communities, and your state deal with the crisis in our schools.

Let us make no mistake about it, the "crisis" is real, the American people know it, and they are doing something about it. The indictment of the public school system drawn by the ten reports published during the past eighteen months is sharp, and the findings of the various commissions and task forces that conducted the studies are well-researched. The timetables for educational reforms that have been put forward are, in many instances, marked "most urgent," and the academic community may find itself stunned at the speed with which school boards, legislatures, and other state agencies are moving to put new laws, new standards, and new policies on the books. As a matter of

fact, Governor Bob Graham of Florida—one of the country's most education-minded chief executives—recently told a group of educators that if they did not effect changes in the schools, and quickly, others—meaning the political community and the public generally—would do it for them.

Education has already emerged as a priority issue on 1984's domestic political agenda, and new legislation affecting education at every level is sure to come before the Congress that convenes in 1985. States are responding in dramatic fashion to multiple calls for educational excellence. Even before the release of national reports, many states had already created task forces or commissions to study school problems. By late 1983, the Education Commission of the States had identified a total of 130 such groups in 48 states, most of them created by public officials or agencies, a few organized from within the private sector. Thirty-five of the states have at least one task force looking specifically at "education excellence," fifteen have task forces studying "how to improve science and mathematics instruction," commissions in 15 states are recommending ways "to increase economic growth by attracting high-technology industries," fourteen states are analyzing ways "to integrate technology into instruction," and a handful of commissions have made or are developing recommendations about vocational education, finance, and business-education partnerships.

Not since the post-Sputnik Congress of 1958—the year the National Defense Education Act was passed—has so much public and media attention been paid to questions revolving around the quality of our educational system. Throughout the country, millions of Americans are talking about their schools and what needs to be done to improve them. Newspapers now periodically publish "box scores" on educational reforms recommended by one or more of the principal national reports. Fourteen states have adopted tougher high school graduation requirements, a half dozen have set higher standards for admission to state universities, and a few have enacted—and many are considering—legislation mandating competency tests for teachers.

The studies that riveted national attention on the critical condition of our educational system essentially convey three messages to the Amerian people: First, our nation is "at risk" (in the phrase used by the National Commission on Excellence in Education) because competitors throughout the world are overtaking the unchallenged lead the United States once held in commerce, industry, science, and technology. Second, the reports find that mediocrity, not excellence, has become the norm in American education. And third, America doesn't have to endure this sorry state of affairs: we can, should, and must do better.

The facts supporting the National Commission's concerns about "a tide of mediocrity" (to cite but one study) are indeed stark:

- On 19 international assessments of student achievement, U.S. students never ranked first or second; in fact, when compared only with students from other industrialized nations, U.S. students ranked in last place seven times.
- About 13 percent of U.S. teenagers (and up to 40 percent of minority adolescents) are functionally illiterate.
- Approximately 23 million American adults are functionally illiterate.
- Between 1975 and 1980, the number of remedial mathematics courses offered in four-year public colleges increased by seventy-two percent.
- Only about one-fourth of the recent recruits to the Armed Services were able to read at the ninth-grade level, the minimum necessary to follow safety directions.

To mention another report, The Carnegie Foundation study—perhaps the least pessimistic of those published last year—estimates that fifteen percent of American high school students are getting "the finest education in the world," but that about twice that proportion merely "mark time in school or drop out," with the majority somewhere between, attending schools "where pockets of excellence can be found, but where there is little intellectual challenge."

Unfortunately, so much media attention has centered on the negative aspects of the recent studies of the schools that we run the risk of losing sight of the progress toward reform that has already been made. As I noted earlier, many localities and states, recognizing the decline in educational quality that characterized the 1970s, have long since moved to strengthen their systems through increased teachers' salaries, curricular reforms, improved facilities, and greater involvement of parents in decisions affecting the education of their children.

Almost instinctively, the American people have seemed to sense that, while the scope of the current crisis in education is national, it must be dealt with, first of all, at the state and local levels. This second conviction that forms the framework of today's conference is, incidentally, a key strategic point noted in all of the recent reports. This strategy, endorsed by AASCU, will require collaborative efforts by governors, mayors, state legislators, chief state school officers, school board members and administrators, governing boards, teachers and teacher organizations, parents, students, and representatives of labor unions, businesses, industries, postsecondary institutions, and other professions.

In an upbeat conclusion to its report, the National Commission on Excellence stated, "Despite the obstacles and difficulties that inhibit the pursuit of superior educational attainment, we are confident, with history as our guide, that we can meet our goal." The American educational system has always responded to the needs of the American people: the

normal schools and teachers colleges that were transformed into comprehensive state colleges and universities; the land-grant colleges and universities; the community colleges and technical schools; the programs for economically and culturally disadvantaged students—all demonstrate the resilience of America's educational system and the willingness of its citizens to support needed reforms.

To accomplish the educational reforms that are deemed to be imperative means hard work, diligence, patience, a re-ordering of economic and educational priorities, professional commitment, and planning, both short-term and long-range. A crisis that has evolved over nearly two decades, our AASCU Task Force has cautioned, cannot be resolved in a matter of months, or even within a few years.

Which brings us to the concept of building and sustaining a continuous, constructive partnership between AASCU institutions and the public schools. AASCU members are committed to helping their states and communities strengthen the school systems that are so central to the achievement of excellence in all aspects of our national life: in the classroom, in the work place, in the greater society. No segment of higher education faces a more difficult challenge.

But facing times of challenge is nothing new to the institutions we now know as comprehensive regional state colleges and universities, and the idea of a working partnership between these institutions and the public schools can be traced directly to the late 1830s when Horace Mann, as Secretary to the newly-organized Massachusetts Board of Education, organized America's first publicly-supported normal schools, thus ushering in a new era in the history of education. Mann, we recall, had championed what were then known as "common schools"—schools where children from all walks of life could receive an education, which he called a "great equalizer of the conditions of men, the balance wheel of the social machinery." It was as teachers in the public common schools that graduates of the public normal schools found their careers.

Today, over fifty percent of all new school teachers certified each year in the United States are trained in the 356 institutions that comprise the American Association of State Colleges and Universities. Historically, the fortunes of the nation's public schools and AASCU members have been linked, from those early days of the "normal schools," through the era of the "teachers colleges," to modern times and the emergence of comprehensive state colleges and universities. In Illinois and elsewhere, that partnership has become indissoluble, as this conference has made clear.

As this state moves to improve its public schools and to create environments of excellence in its classrooms, your leadership role as presidents of AASCU institutions becomes pivotal, for it is within your province to marshall and deploy your university's resources, to set and manage your academic priorities, to guide your administrative

colleagues and your faculties in putting first things first.

And your first priority now, today—in the face of public clamor for educational reforms—must be, in my opinion, the improvement of programs designed to prepare men and women for the profession of teaching. For well over a century, the institutions that now comprise AASCU's membership made the preparation of teachers the centerpiece of their academic programs. In recent years, however, as AASCU institutions became more comprehensive in scope, their role as regional state colleges and universities has broadened throughout the country, as, indeed, it has here in Illinois. In addition, the entire post-secondary educational landscape has become more intricate, social values have changed markedly, the national economy has grown more complex, and technology has revolutionized the way Americans live, work, and learn.

As a result, during the past several years, there has been a dramatic shift in institutional program priorities, with colleges that had been predominantly teacher education institutions greatly expanding their offerings to other careers, as your universities have done. In addition, a variety of factors, including the development of new opportunities for women and expansion of the job market in business, engineering, allied health fields, and other professions, has meant the loss of many highly capable students from the teaching profession.

That condition must change—and it is up to universities such as yours to see that it does.

I believe that the governing boards, administrative officers, faculty, and alumni of AASCU institutions today have an overriding responsibility to restore teacher education to its historic, special place in the curriculum. Clearly, the national interest requires that top priority be given to the recruitment of talented students into the teaching profession and their retention in a school system that assures quality at every level and in all fields of instruction.

As chief executive officers, you see your universities in their totality. You can make certain that not just your schools and departments of education are involved in cooperative efforts to improve teacher preparation programs, but that your entire institutions are involved as well. You are the key administrative link between your universities and your governing boards. If there is to be a re-ordering of priorities, it can come, in the last analysis, only from you.

In accepting this leadership responsibility and charge for renewal on your campuses to a commitment to teacher education as a first academic priority, you will be playing a key role in the statewide and nationwide movements to secure excellence in education and to add greater dignity to the teaching profession. You face no more urgent imperative.